



**platform labour in  
urban spaces**

**WP4**

**D4.3. Report on new skills for platform economy and  
about the emerging scenarios fostered by the training  
program**

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## Executive summary

This report is one of the final deliverables of the PLUS project's WP4 "Co-construction of training programs for the various actors involved in platform economy". This WP, in sum, consists in: a) setting-up a training materials, namely a MOOC, addressed to workers, professionals, trade unionists, administration representatives and labour market experts/professionals, focused on platform economy, skills development and ways of ensuring continuity of social rights in an urban setting beyond fragmented professional trajectories; b) implementation of seven city training workshops to reflect upon platform work and skills in an urban setting, addressed to workers, representatives, coordinators in the seven case study cities, including a selection of stakeholders and potentially interested actors; c) establishing a community of practice supporting the definition of some MOOC modules with the participation of ETUI.

This report is therefore a compendium of the activities accomplished during the WP lifetime concerning the elaboration and reflection upon the meaning of skills in a context of platform economy, including conceptual, training, certification, and implementation facets. The achievements set out hereafter lean on both specific WP4 activities and other project WPs results, in particular: D2.3 "Final Report on impact of technologies on workers and the labour process in the platform economy"; D.5.1 "Chart on Digital Workers' Rights"; the SOPO labs carried out in WP5; D6.2 "Report on Welfare in Platform Economies".

This report delves in the relation between platforms and the skills that are necessary to work in this environment. Digital platforms are, in effect, profoundly altering many aspects of urban life, since manifold effects on labour are accelerated in cities, as commerce, delivery, hosting, and services take place increasingly more often through, and are enabled by, platforms. Platforms are thus instilling unprecedented fronts of inclusion and exclusion, participation and division, social and political aggregation, and disaggregation. In this report, therefore, we seek to briefly conduct an analysis of the concept of "skills" based on the PLUS project work process and results on the one hand, and, on the other hand, by considering the concept of skills from a broader perspective, as a social and political assemblage.

Correspondingly, the report highlights as such reconfiguration requires actors, actions and proposals aiming at co-constructing and recognizing the skills of platform workers, on a path addressed to building their substantive citizenship and allowing the platform economy to be a fair labour environment. Discussions on skills usually tend to focus on their technical/professional dimensions, learning outcomes, descriptions and the knowledge associated with the techniques of the work process, developed via training and experience. However, evaluating, identifying, developing and recognizing skills in an uncharted scenario of platform economy should not be seen primarily as an objective process, but very much as the result of political and social co-construction involving all actors of the platform environment.

# Introduction

Digital platforms are profoundly altering many aspects of urban life in Europe and beyond, since manifold effects on labour are accelerated in the cities, as commerce, delivery, hosting, and services take place increasingly more often through, and are enabled by, platforms. Platforms are thus instilling, with particular evidence in cities, unprecedented fronts of inclusion and exclusion, participation and division, social and political aggregation and disaggregation. This results in a redefinition of labour by a reconfiguration and/or the emergence of new forms of actors, relations and bargaining as illustrated by platforms, that are shifting from digital means to immaterial and impalpable employers.

If the debate on the links between platforms and labour is in general vivid, a level of analysis influencing such links appear less known and studied in the literature: the platform workers' skills and the discourses surrounding them. The urban setting is a peculiar ecosystem of contemporary value production and labour relations' reconfiguration. Correspondingly, such reconfiguration requires actors, actions and proposals aiming at formalizing and recognizing the skills of platform workers, on a path addressed to building their substantive citizenship and allowing the platform economy to be a fair labour environment. In terms of public action, the platform economy indeed provides a fruitful space of reflection and experimentation for co-constructing a social and political "use" of the concept of skill, since most of the skills exploited by platforms are not defined, formalized, recognized and, even more, trained or certified. Discussions on skills usually tend to focus on their technical/professional dimensions, learning outcomes descriptions, manipulation skills and the knowledge associated with the techniques of the work process, developed via training and experience. However, evaluating, identifying, developing and certifying skills in an uncharted scenario of a platform economy should not be seen as primarily objective processes, but very much as the result of political and social co-construction.

The Horizon 2020 project *PLUS – Platform Labour in Urban Spaces: Fairness, Welfare, Development*, started with the aim to investigate the urban transformations and effects of four digital platforms (Airbnb, Deliveroo, Helpling, Uber) on platform work, social reproduction, skills development and citizenship dimensions in seven European cities (Barcelona, Berlin, Bologna, Lisbon, London, Paris and Tallinn). The Work package (WP) 4 of the project is dedicated to deepening the skills discourse in the platform economy. It is done by: a) setting up a MOOC aimed at understanding the characteristics of platform economy, framing its development both as a disruptive event and as a long-term and multi-level process; b) implementing seven city training workshops (one in each city involved in the project) targeting key actors (workers, coordinators, professionals, unionists) in order to both share training contents proposed as issues at stake, and discuss and define skills to be improved/elaborated/developed (see Annexes 1 and 2). The training workshops were initially planned offline, but due to Covid inrush were all shifted online; c) triggering a Community of practice able, on the one hand to receive and participate to in the project's outcome implementation, and on the other hand to propose contents. Two of the MOOC lessons are, in fact, based on outcomes from the first Community of practice workshop held online in February 2021.

This report summarizes and elaborates the WP4 activities' outcomes and dialogue with additional WPs outcomes (see section 2.1 for specific references) in order to focus on framing skills in the platform economy scenario. The report is structured in the first part tracing a short trajectory of the concept of skill and framing it in the platform context. The second part describes, in the first section, the mobilization of skills at work as a result collected from both the city training workshops and other project outcomes. In the second section are reported the specific links with other project outcomes that directly contribute to this report. The third part delves in explaining the need to broaden the concept of skills due the new platform-driven scenario. This is pursued in the first section by analysing the link between humans and technologies, in the second section by raising the need to extend the definition of skills and in the third section by introducing the notion of digital citizenship as an

important issue for skills development. The fourth concluding part focuses on what it takes to develop skills for the platform economy. By raising the main issues at stake and the challenges for key actors, this part is structured in three sections: the first addressing the implications for VET systems, the second for social protection systems and the third dealing with the political facet of skills.

## 0. Links with other PLUS Deliverables

Within the PLUS project, the issue regarding skills in the platform economy is addressed in different Work Packages (WP) and deliverables, with which this report is deeply linked and complementary. Such complementarity stands in further developing the characteristics of the skills (re)framed in (and by) the platform economy.

A first important link exists with Deliverable 2.3 “Final Report on impact of technologies on workers and labour process in the platform economy”. This report is the result of a qualitative research based on a comparative analysis of interviews with workers from different platforms. It compares the four platforms (Uber, Deliveroo, Helping, Airbnb) in the seven cities under study within the PLUS project and along with its key issues (labour process, social protection and skills). How each platform in its city environment reacted during the Covid-19 pandemic was also analyzed.

With regard to skills, this report sheds light on important findings (pp. 93-94) that can be summarily listed as follows:

- Almost no skills are formally required among the workers of each of the four platforms, except for a driver’s license (which is not a skill but a formal certification) for Uber workers, and some form of training and payment was necessary for a taxi/ride-hailing license;
- Platforms were open to hiring any worker and were not looking for specific skills. However, it became clear to workers during their activity that much informal knowledge and skills were necessary to perform work and guarantee sufficient profit for the platforms;
- Specific training, work preparation, or extra effort were often necessary to receive a good mark (e.g. skills in English or in the country’s language were often not necessary, but important to avoid misunderstandings, interact with customers and obtain good ratings and income);
- Airbnb and Helping use internal skill certifications or status levels to formalize skill ranks on the platform;
- The low degree of formal skills necessary for the job is often in contrast with the high educational degrees held by the sampled interviewees;
- Workers could make use of some of their educational skills (most particularly knowledge of the language) and in some cases also vocational training skills to better perform their work.

A second output in dialogue with this report is the Deliverable 6.2 “Report on Welfare in Platform Economies”. It aims to contribute to the European Commission’s second-stage consultation of European social partners (which began in June 2021) on the ways in which people working through digital platforms could be better protected, by presenting policy-relevant findings and analysis from the PLUS project. The report deals with the topic of skills, particularly in scrutinizing the principles set out in the European Pillar of Social Rights (EPSR), a key document aiming at guiding public policies to promote decent working conditions and social protection in the EU. Among the key EPSR’s principles, there is a section on “Education, training, and life-long learning” where the skills play a prominent role. In line with the findings of the Deliverable 2.3 aforementioned, this report points out that no formal skills were required for entering the four platforms under study (except the driving license for drivers) and performing work for them. In practice, platform workers often had to acquire and use multiple skills (including technical, social, and digital) to carry out their work, although there was no recognition of such skills acquired before taking up employment or during employment and work performance. The only exceptions were Airbnb and Helping’s internal skills certifications or status levels. Despite the EPSR pointing out the need to implement measures aiming at developing skills by facilitating and giving access to training

and life-long learning, findings demonstrate that platform workers are deprived of the right to access quality and inclusive training since platforms offer little or no access to continuing education and skills programs.

The third main output of the PLUS project that feeds this document is the Deliverable 5.1 “Chart on Digital Workers Rights”. Based on the research activities developed mainly in WPs 2 and 5, it provides a synthesis of the protections that platform workers need, considering the peculiarities of this form of labour. It offers both useful and concrete tools for policy-making and is intended to serve as a regulatory model tested in project Task 5.3. In the Chart, one section is dedicated to training rights. It is stated that “it is therefore appropriate that workers on digital platforms should be able to learn the job, to train, to improve and to maintain their expertise. To ensure an adequate professional standard, platform workers should have access to specific training/information and/or professional updating activity, which platforms have to make available. (...). The portability of expertise can strengthen the position of the platform worker in the labour market. To achieve this, the work done by workers and the skills acquired must be valued and recognised in a specific document, provided to the worker.” (p. 39).

A further linked activity is the implementation of the SOPO (social policy) Labs. The SOPO Lab is a co-creation event involving several actors with different expertise, skills, experiences, aiming at allowing different stakeholders to create a collective and shared process for testing different solutions informed by PLUS outputs. Sessions of SOPO labs were carried out separately with sessions in all the seven cities of the project, as well as at the European level, grouping all cities. The skill issue emerged as a key point to be handled to improve the working conditions of workers, as well as the necessity to improve the organization of the whole platform work sector in terms of increasing skills recognition. The SOPO labs also highlighted, on the one hand, that workers were regularly called upon to mobilize informal skills; on the other hand, they also documented that platforms use internal rating mechanisms to certify the value of workers, but without the will to increase and improve workers’ skills.

The above mentioned project outcomes and this report share a common goal of a better understanding of the skills put to work and recognized (or not) in the contemporary work environment. This report intends to go a step further by enlarging its definition to better fit the framework of platform work. Evaluating, identifying and developing skills should not be seen as solely objective processes (or allegedly so), but also as the result of social and political construction. Platform work offers an inspiring scenario to work on this co-construction, in the sense of a political understanding of the concept of skill, since most of the skills exploited by platform workers are not defined, formalized, recognized and, even less, neither trained nor certified. The briefly described project outcomes highlight, in effect, that future-ready platform workers need to exercise participation, in their work and throughout life. Participation as an agency implies a sense of motivation and responsibility to participate and, in so doing, to influence people and circumstances to produce effects. It implies the ability to frame a guiding purpose and identify actions to achieve a goal in an environment, such as platform work, where individuals will have to deal with never-ending situations that can neither be exactly predicted nor calculated in advance.

The various PLUS deliverables above mentioned are therefore intrinsically linked with this report which, collecting their inputs, serves as a set of conclusive considerations concerning the topic of skills. Within the framework of the PLUS project, the contested concept of skills was primarily understood as a social and political construction. Indeed, it is difficult to think about the future of skills needed and performed within the platform economy without a framework of collective organizations that provide the basis for all players and stakeholders in the debate on skills to express themselves.

Not only can such a set-up balance the different claims and inequality in powers; it will also produce genuinely better outcomes, because all opinions can be challenged and need to be explained, finding adequate room. Once those arrangements are in place, the contents of



skills (including the concomitant actors, definition, recognition and training systems) can be addressed.

The generic issues with regard to skills are, all in all, seen as plain. A process is needed to elicit and aggregate relevant information and instances; a social and political space where ideas can be voiced, co-constructed, evaluated, modified and also withdrawn; underpinning arrangements and agreements that would make decisions “constraining” as well as revisable without undermining trust; a monitoring and policing mechanism that all actors rate legitimate. And all these prior arrangements must be up for grabs at almost any time, since it is not possible to collectively innovate the product/outcome (skills) without collectively knowing and innovating the process of building the product/outcome.

Skills are fundamental for social, political and economic progress. They require a careful and sufficiently broad definition to support a consistent analysis and a fruitful dialogue. Narrow concepts typically refer to particular preferences, and intellectual debates can themselves reflect conflicting interests. The consequences of the lack of clarity and consensus over the concept of skill are manifold, and stand from potential misconceptions (such as the possible divergence between employers’ demand for skills with workers’ offer of skills) to wider aspects involving further actors (worthless narrow perspectives towards policy interventions; ill-informed critiques of other disciplines approaches). The concept of skill is in a continuous process of change. It asks for more than a simple list of skills that schools or VET (Vocational education and training) institutions can use and base their curricula on to be able to ensure their learners a future-proof and secure preparation for manifold eventualities. Skills go still deeper and reach wider. They call for change that is so profound that it touches the basis of VET, educational and labour systems. In organizations in which skills play a major role already, work processes are often subject to drastic changes, and responsibility structures and patterns of action shift. The concept of skill questions the preparatory proposition according to which workers, who are firstly citizens, can be prepared through knowledge acquisition for the future to come.

In this report, therefore, we seek to briefly conduct an analysis of the concept of “skills” based on the PLUS project work process and results on the one hand, and, on the other hand, by considering the concept of skills from a broader perspective, as a social and political assemblage.

## 1. The concept of “skills”

The definition of skills is tacitly consensual and gives everyone the feeling of mastering its meaning. In the sociological literature, a kind of consensus has been reached and the concept of skills is defined as a given action, i.e. the goal-oriented ability to cope with certain tasks (or a more or less large range of tasks) in a given context, and consists of such elements as knowledge, functional competence and behavioral competencies (Coulet, 2011). However, the concept remains highly contrasted (Coulet, 2011).

In general, the concept of human capital makes it possible to understand that skills are levers for thinking about adaptation to socio-economic changes. Individuals acquire useful skills and knowledge and these constitute a form of capital that is the product of rational investment and choice (Schultz, 1961).

Different points of view emerge when looking at the concept of skills. Some authors emphasize that ambiguities allow the concept to be disseminated and adopted by a set of actors with very distinct conceptions (Dietrich, 2002; Livian, 2002; Lichtenberger, 2003).

A skill can be defined as "a social artifact that comes into being through the artificial delimitation of certain work as 'skilled' " (More, 1982, p.109). Skill is also a "stabilised set of knowledge and know-how, standard behaviours, standard procedures, types of reasoning that can be implemented without new learning" (De Montmollin, 1984). In the plural, skills enable "one to act and/or solve professional problems satisfactorily in a particular context by mobilising various abilities in an integrated manner" (Bellier, 1999 b, p. 226).

Following a socio-historical definition of the concept of skills, we are asked to explore the causality of the link between technology and skills, between worker consciousness and skills, and between processes of societal change and divisions in skills (Vallas, 1990). On the latter aspect, an important issue regarding how to frame societal change and skills in the future is whether we need (more, but also in the meanwhile) different specific skills, relying on specialized knowledge that can only be used in a limited number of situations, or more general skills. The labour market will always need doctors, plumbers, or lawyers, yet probably not as many as we have now. Furthermore, workers trained to monitor and control both computers and machines that carry out a growing part of the manual work will be more and more needed. In this sense, the argument for supporting general skills training becomes key in the future, but already today. Some estimations based on the characteristic tasks of each occupation suggest that a consistent part of all jobs are at risk of being substituted by computers or algorithms (e.g. Frey and Osborne, 2013). This is indeed an important point, but it is also arguable that occupations as a whole are unlikely to be fully automated, as there is great variability in the tasks within each occupation, and platform workers demonstrate this variability and need to reshape the skills to fruitfully interact with platforms. If the future is uncertain, workers, as well as the entire collectivity, is pushed to diversify its skills portfolio. This implies, in turn, the need to adopt an approach to individual skill portfolio as a personal and at the same time participatory process, co-constructed and co-decided, and to concentrate on the transferability of skills. This evolution can sometimes be at the cost of stable workplaces, careers, products, and politics that come with a labour market functioning built around specific skills certified in a top-down manner. In other words, rather than being a technical exercise such as an inventory, “producing” skills (defining them, enacting them and building rigid mechanisms through which they can be acquired) is a political process. Within this process, parties with sometimes partly competing visions (actors such as workers, institutions, companies, unions, etc.) should share a common set of rules and understandings, which needs to find a resonance in institutions. This is because of the need to have a better chance at identifying the skills required and an understanding of the specific process of skill definition to arrive at a shared validation and understanding of skills, given

that a path for redistributing power within the workplace almost always requires collective organizing (Johnston, Caia, Silberman, Ceremigna, Hernandez, Dumitrescu, 2020).

It appears that discussion on skills tends to focus on its technical/professional dimensions and the knowledge associated with the techniques of the work process, developed via education, training and experience. At the same time, however, identifying, defining, developing and evaluating skills, should not be seen as mere didactical and technical processes, but very much as the result of a social and political construction able to produce a shared and effective economic value for all actors, starting from workers. Skills are a fundamental pillar of modern (capitalist) economies. Despite that, it is often difficult to achieve adequate recognition for them. Producing skills often requires the coordination of many actors (workers, employers, education/training/VET bodies, intermediate bodies, public agencies, etc.), the need for institutions to inspire and orientate the action of the actors, and ways to monitor the skill definition and “production”. This happens against the background of often partially diverging interests among these actors. The labour market scenario is inflated by new developments that stand in the combination of new products and services (from platform economy to electric vehicles which require different skill sets); automation (with the risk to supplant many jobs that have provided a steady livelihood for the workforce); and emerging new models of work organization (platform-based employments, hybrid work, work from home due to Covid inrush, project-based self-employment, etc.). This changing context carries with it a series of needs that we can summarize as: a) “new” skills, but also ways in which they are defined, trained, certified and recognized; b) “traditional” skills that in such a changing scenario risk to not be adequately valued, recognized, and remunerated.

In essence, the issue of skills has three main dimensions, developed at the whole PLUS project level and more particularly within the WP4 that aims to elaborate a map for skills framed in the platform economy. Such three main dimensions are:

- how and under which conditions there is a need for “more” skills;
- the skills fitting a platform economy are specific ones, or can they also be general or a re-assemblage of both;
- probably most importantly, how is it possible to update the process of definition of such skills and trigger the involvement of actors that can/should have a say in the process, with particular attention to the urban realm.

It seems accordingly clear enough that: a) beyond being a technical exercise, defining skills for a platform economy (co-constructing them and setting-up ways through which they can be acquired and recognized) is a complex social and political process, in which actors with partly competing visions build a common set of rules and understandings; b) multiple and controversial conceptualizations of skill exist, and each perspective focuses on significant differences in emphasis, peculiar aspects of its meaning (pedagogical, normative, economic, educational, social, political, etc.). Bednarz (2010) for example considers that in the case of vocational training, it is particularly useful to understand skills as capabilities normally acted on by a person qualified in a broader sense. According to Bednarz, the concept of skill has three key characteristics: *“(...) has to be related to „application“ of knowledge, and therefore to the role played by experience and reflection in building up applicable and transferable knowledge; (...) is something which includes a certain mastery in dealing with unexpected and critical situations, coping with something „diverse“ from routines, far apart from our common framework; as competence implies the mobilization of our personal attitudes, relations and emotions, it also implies a holistic perception of human learning, including the cognitive and content dimension of learning, but also the affective and social ones.”* (Bednarz, 2010, p. 41).

## 1.1 The concept of skills in the context of platform work

While major changes in the function of workers have been announced with the arrival of new technologies (Zuboff, 1988), the platform economy also modifies the meaning given to the concept of skills, their skills formation and matching. Identifying the typical skills that platform workers need to succeed, and analyzing the (algorithmic) matching channels and processes used by digital platform companies, is a dimension that the actual meaning of skills must include (CEDEFOP, 2021; 2020). But what meaning does this concept have when applied to a work context in the platform economy? To answer this question we have to briefly mobilize the connection between the concept of skill and the digital/platform realm. In an increasingly platform-mediated society, citizens are inescapably immersed and imbued in a platform environment, even without the direct use of technology. The use of the latter seems both an opportunity as well as a necessity for participation in society. Access and use of the Internet indeed make available a huge set of provisions, including educational opportunities and employment databases, providing employment prospects (Mossberger, Tolbert, & McNeal, 2008). Accordingly, these authors argue that *“in the information age, digital citizenship may rival formal education in its importance for economic opportunity”* (Mossberger et al., 2008, p. 5), inflating the aspect of digital skills from an educationalist posture and a belief that digital technology use can be an opportunity for people if they are taught to use it responsibly. Drawing upon survey data from the United States of America, these scholars found that Internet use increases economic capital. As a result, the use of the Internet in the workplace was linked to higher income (Brynin, 2006; Mossberger et al., 2008). In other words, according to these scholars, those who have the skills (or the digital capital) to use the Internet, tend to benefit the most economically. As a result, disparities in the use of the Internet and digital platform may reflect and potentially exacerbate existing divisions and inequalities in society (Oyedemi, 2015).

The need for digital skills, such as digital literacy has been widely recognized in research on the use of the Internet (see for example Buente, 2015; Emejulu & McGregor, 2016). Although it is not necessary to be technically literate to participate, those with limited technical literacy are not necessarily equipped to be aware citizens of (and in) the digital world. Young adults, for example, require an understanding of the technology they use in order to execute and use the affordances they are imbued with to actively and critically participate and contribute in a platform-mediated society. In the wake of this level of ability, digital literacy seems to include the ability and disposition to use digital media productively and creatively, alongside the capacity to critically reflect on their usage and the impact digital platforms have on society and work in a broad sense. This capacity includes political, economical and cultural aspects, both for private and professional contexts, as well as for the understanding of the potentials and limits of platforms and their effects.

The link between digital platform use and digital skills, and the ability this provides to optimize benefits for the individual (or vice versa to obstacle benefitting), has been noted by other authors (see for example Livingstone & Helsper, 2010; Selwyn, 2011; van Deursen & van Dijk, 2019). Instead, the focus has been on how inequalities caused by differentiated levels of digital skills and use result in a digital divide, and further, in broadening inequalities. However, these latter authors examine digital practices that reflect ways of being and doing citizenship online. For instance, as mentioned, like Mossberger et al. (2008), Hargittai & Hinnant (2008) link frequency of the use of the Internet and the development of digital capitals such as skills. This led them to conclude that regularly being online meant people would further develop their digital capital by becoming more familiar and comfortable with the affordances of the medium (Hargittai & Hinnant, 2008). Hargittai, Piper et al. (2018). However, it is the quality of activities that people engage in online, rather than the quantity, which is most important in developing skills. Therefore this position can be contested from this viewpoint.

Similarly, a large body of literature has linked the types of activities that individuals engage in online to educational level and benefits gained from the use of the Internet (see for example Livingstone & Helsper, 2010; van Deursen & van Dijk, 2019). For example, van Deursen and

van Dijk (2019) found that although unemployed people with low levels of education were more frequent and persistent users of the Internet, their usage tended to revolve around entertainment-based activities, such as the use of social media, apps and gaming. In contrast, experienced, and more highly educated Internet users were more likely to access informative capital-enhancing websites, such as news or cultural sites. Consequently, their use of the Internet was more productive and lead to greater benefit (van Deursen & van Dijk, 2019). Higher levels of education, along with “*information and strategic internet skills*” (van Deursen & van Dijk, 2011, p. 908), allow for more efficient content searching and evaluation of information and render more benefit to the user. This is just a mere sample of how digital skills are a delicate mix of educational capital and digital capital intersection to shape the way people use platform-mediated immaterial and material spaces to gain further capital. In other words, skills for platform economy should encourage considering the features of the use of digital technologies and developing critical literacy, rather than prescribing actions for specific contexts.

The link between platforms and skills also raises concrete questions such as whether “more” and maybe new skills are useful or whether a re-assembly of general ones would successfully suit platform workers’ needs, or a mix of both is the best way. It means that the notion of skills in a platform environment implies the possession of capital in terms of ability to access, and furthermore to participate in, digitally-mediated spaces; as habitus that drives behaviors and attitudes towards technology while contributing to the performance of actions able to produce effects both online and offline. It may further be constructed as normative (appropriate) practices that reinforce the collective habitus around (digital) citizenship.

Even so, since we are in an unprecedented scenario, the issue of participation in a process of definition of such skills is required. Framing participation in a perspective of a political process nurturing a collective co-definition of skills, platform workers need to find ways to participate in social or political processes in their workplace, to re-elaborate their crucial role, and gain a broad understanding of their rights and duties. But as citizens, even if bonded with another political setting, they are political actors in a given dimension of citizenship. These two positions (the co-definition process of skills and direct involvement of the workers) are indeed a delicate balance. But since a political community can not exist without accepted and shared rules, and while it is not possible for a political community to exist without exchange, interaction, and bridges towards external political communities, it is arguable that platform workers could benefit from a path widening and sharing awareness of themselves as political (generally speaking) actors, as citizens in a new context, where skills are crucial political leverage. This context emerges from the changing labour market, from the increasing role of platforms in the public field as well as in the private life, and from the economic and financial interdependence triggered by the so called “globalization”, flows which have influenced and contributed to redesigning the idea of citizenship in contemporary society, with new features, allowing for “*the emergence of locations of citizenship outside the confines of the national state.*” (Sassen, 2002, p. 281). A thorough reflection afforded by European initiatives such as projects like PLUS facilitate this way, with the much needed awareness of the crucial work that is ongoing, given that “*It is still a long and difficult path of course. (...), and the gap to be bridged to reach a condition of cives (i.e. collaborative, bridging and open self-definition of identity, based on sufficient knowledge of the citizenship concept, theory and considered facts) is still very vast.*” (Bignami, 2014, p. 77). The value of projects like PLUS therefore, directed towards strengthening skills for platform workers in a wider sense, including developing the sharing of practices, political and social enrichment, the use of the workplace to reflect upon how to improve it, can then be envisaged mainly (although not only) in two ways. Firstly, as a remedy to the tendential marginalization of platform workers from participation in social and political contexts, from equal legal rights, duties and entitlements, and as a remedy to the failure (intentional or not) of the host urban environment to recognize the important contributions these urban citizens make to the (re)production of the urban fabric. Secondly, citizenship is not something given, but must be fought for and claimed through and with skills, since: “*(...) there are challenges with regard to*

*skills mismatch, training requirements or accumulation of skills on platforms”* (ILO, 2021, p. 184). In this sense, PLUS project is a valuable exercise in supporting the process of skills development, promoting awareness and socio-political commitment.

## 2. Skills at work in the platform economy

All types of work, including those deemed to be unqualified and easy to access, such as most of those offered on platforms (for example riders who distribute hot meals in the centers of our major European cities in the first place), require both general and specific skills. Skills refer to the ability to perform an activity. Being aware of the existence of specific skills for carrying out specific activities and jobs helps in defining knowledge, skills themselves and attitude (jointly constituting the concept of competence). Platform workers are often equipped with particular skills, but, commonly, these skills are neither formalised, defined nor appropriately valorised. The platforms do not value the work done.

Firstly, work and skills are not valued through payroll: several authors and researchers have pointed out that remuneration in a platform economy is overwhelmingly both weak and uncertain (for e.g. Dufresne & Leterme, 2021; ILO, 2016c; European Commission, 2020:72-75). Regarding low remuneration, the ILO study pointed out that micro-workers earned an average of \$4.43 per hour in 2017 if only paid hours were counted. Micro-workers actually earned \$3.31 per hour if both paid and unpaid hours were considered. With regard to the fundamentally uncertain dimension of remuneration, the payment by task system does not guarantee a regular and expected earning. The tasks to be performed and effectively available are indeed very fluctuating. Furthermore, generating and processing data is not included in the remuneration (Casilli, 2019) and the time spent looking for tasks or managing its own profile is not included either (Gray & Suri, 2020).

Secondly, work and skills are not valued because there is no definition or description of job vacancies. This leads to a severe lack of career opportunities and progression (Dufresne and Leterme, 2020). This lack of perspective is fed by the lack of formalised qualifications and the structural interchangeability of the tasks that are both sought and performed (Dufresne and Leterme, 2020). This interchangeability makes it difficult to consolidate skills over time (Dufresne and Leterme, 2020). In addition, workers do not have access to continuing training programs that could strengthen their skills and promote their career development: either the programs do not exist; or the workers are not aware of their existence or they cannot participate due to incompatible working hours (Dufresne and Leterme, 2020).

In addition to a lack of recognition of skills, the platform workers cannot claim to be or present themselves as employees of the platforms. They are indeed considered as self-entrepreneur and free to engage when and to the extent of their possibilities and desires, according to the platforms' communication. This, in turn, also devalues the work done and does not contribute to the emergence of a professional identity. In London, it was raised that platform workers cannot say that they work for the platform:

*'When you say people work for Airbnb, maybe ... because that creates the concept that we are employees of Airbnb and that's what Airbnb really avoids: they make it very clear we don't work for them. And I was trying to find the right word as well; maybe we work using Airbnb platform or we work with Airbnb; but Airbnb was – and is – quite clear: they have no comments if we want to ... like there's one community leader who we do things to organise events for Airbnb; she wants to put it on her CV and Airbnb doesn't have any comments and we can't write it as a working experience and so that's something the platform is very careful of in phrasing our relationship.'* (WP2 – Final Report - Air Lon F 8).

The case of Airbnb is peculiar. Hosts are not univocally recognized as workers today, not only by themselves or by the platform, but also in general by public opinion and in scientific

works. However, although the Airbnb case is a peculiar one, we want to demonstrate in this report how the employment relationship unfolds on the one hand, and how the activity is actually carried out by hosts and other service companies involved (cleaning companies, for example), on the other hand. Airbnb is not just about real estate. A lot of hidden, and therefore unrecognized, work is observed. This unrecognized work breeds the fact that the specific skills are not recognized.

The nature of work, and therefore the workers themselves who perform tasks linked to the platform, are both deemed unskilled. This double assumption can, however, be put in perspective and thoroughly criticized. Without entering into the discussion relating to the greater or lesser utility of professions and activities, considering a work performance unskilled is also a means for platforms (as for any other employer) to pay workers poor salaries and justify the absence of any possible career progression.

In this report, we will pick as an example the reputed unskilled work performed by Deliveroo, Uber and Airbnb platform workers. The Deliveroo workers are the riders, the Uber workers are the drivers and the Airbnb workers are the hosts. First, we highlight the specific skills of each job and then we look at the common skills.

In specific terms, the rider's job is hard and dangerous work, mostly carried out by cycling for hours at a fast pace in urban centres, often overwhelmed by traffic jams and with the most diverse weather conditions. So we need to figure out and define the skills associated with the accomplishing of these tasks. Both the physical performance (the use of legs to pedal) and the ability and speed in knowing how to orient oneself in the technological environment of online apps and maps that filter and channel urban movement are needed and put to work. In other words, both physical and cognitive skills are necessary to deliver hot meals ordered through online platforms.

For the Uber drivers, a relevant skill is to strive to stay in good physical shape. It seems, for example, difficult to avoid back problems and pain, as work shifts may be very long, frequent and with little or no breaks during the working day. The importance of remaining healthy and in good physical shape in order to avoid, or limit, physical complications due to immobility (and therefore to continue to perform work and to seek out clients) can also be seen in the ability to know how to move baggage and carry weight in general, or even to know how to ventilate and sanitize the interior of the car. The crucial importance of staying in good physical shape is pointed out by one driver during the workshops since, as he says, *"we likely sit more than the office workers"* (Extract from WP4 Workshop synthesis in Tallinn).

Airbnb hosts work with different partners, each of them intervening for specific tasks, though peripheral to the core activity. Examples of this include ancillary work such as cleaning or handing over keys. This work is often outsourced. The host then mainly manages the relations with both guests, via the app or website, and the network of other professionals whom he calls on an ad hoc basis and for on-the-job specific activities that he does not perform directly. Airbnb hosts also have to perform acting skills: as highlighted in the workshops, it is important to make the customer feel as if hard work has been accomplished in order to host him in the most welcoming conditions possible. Airbnb hosts say it is important to create a feeling of a cocoon and make the guest feel "at home". This supposes, in particular, to reach a subtle balance between maintaining the original character of an individual place of life (guarantee of authenticity) and sufficient de-personalization to allow the customer to feel at home. This is what this Airbnb host illustrates for instance:

*"Preparing my flat before renting takes me between 4 or 5 hours, the time to clean, hide things, etc. It's a job if you really want to get into it and make it work, to appear especially correctly in the ranking".* (Extract from WP4 Workshop synthesis in Paris).



Another important skill for Airbnb hosts is linked to the compliance of its activity with the tax regulations in force, which are proving to be changing, while maintaining it within a volume and within limits allowing the benefit of other social benefits.

Although it was mentioned that information on tax rights and obligations has improved significantly over the recent years, the overlapping with social benefits (e.g. housing allowances delivered by the French “Caisse d’allocations familiales” - CAF) remains a black spot on which neither the platform nor the CAF have developed any information or support.

*“I declared my income to the tax authorities quite quickly and paid taxes on it, because I was anxious. But I didn’t know that I had to declare all my income to the CAF. I lost money because I paid taxes on what I earned, and now I have to give all that of the CAF (social benefits) money back” (Extract from WP4 Workshop synthesis in Paris).*

For all types of platform workers, it should be stressed that the smartphone becomes a decisive tool and a work environment. The ability to get integrated into a group existing on social networks (especially WhatsApp) and the ability to interact with its members using these apps through which work itself is organized are indeed decisive. Moreover, emotions, too, are put to work and subject to monetary valuation. Furthermore, we can point out additional skills related to problem-solving; ability to orient oneself on the job market of platforms (usually the “hiring” follows unusual or differentiated paths); use of production means; time management linked to particular bonds, such as distance, area, terrain morphology, and specific assignment. All these additional skills, the nature of which is above all social, are de facto informal, never mapped nor settled as learning outcomes, though necessary to perform platform work in its diversity.

In this sense, communication skills have been repeatedly mentioned as very important by several workers from Uber, Deliveroo and Airbnb platforms and who participated in the workshops in the seven cities studied by the PLUS project.. Most participants said that they have developed advanced social and communication skills at work. As emerged from the workshop in London, the problem here was that these skills were not recognized and non-transferable from one workplace to another, thus limiting the recognition of acquired experience. However, while not recognizing them in terms of job description and remuneration, Uber’s website suggests to the drivers using its app an article called “the art of conversation for a VTC driver<sup>1</sup>”. In the article, it is written “it is therefore important to recognise the art of conversation and to master its rules”. However, communication-related skills are not formally recognized by Uber.

The invisibility of skills also comes from their naturalization, by the platforms of course in their quest to maximize profit, but also by the workers themselves. Being polite or knowing how to ride a bike is taken for granted. All people know (and are supposed to know) how to do it. It is therefore not considered as a skill (in the sense of a disposition or knowledge in action), but as a natural trait or characteristic. The tasks of ‘care’ are also made invisible by their naturalization: the skills required for hospitality for example (Workshop in Bologna) are numerous, including those such as empathy, and needed to accomplish the emotional dimension of the work (Workshop in Barcelona).

*“Yes, to develop a sense of empathy [is important] ... you’ll learn to sense the person .. is it a good time for talking? .. no, it seems not right for her at the moment...” (WP2, Air\_F\_TLL\_10)*

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<sup>1</sup> <https://www.uber.com/fr-CH/blog/lart-de-la-conversation/>

Although emotional work, and the skills needed for it, are (made) invisible, they remain central. Emotional labour is about displaying certain emotions to meet the demands of a job (Hochschild, 1983). Jobs involving emotional labour are defined as those that :

- require face-to-face or voice-to-voice contact with the public.
- require the worker to produce an emotional state in another person.
- allow the employer to exercise a degree of control over the emotional activities of employees (Hochschild, 1983).

For platform work, emotional work involves reshaping a worker's inner emotional life to conform to the platform's and customers' expectations of emotional performance (Stark, 2016). Good performance ensures that the customer's experience is positive and that they use the service again (Stark, 2016) .

In a study exploring the experience of Uber drivers, it was raised that drivers perform important emotional labour (Rosenblat & Stark, 2016). The app design reminds drivers that emotional labour is essential to maintain a five-star rating. In addition, Uber suggests to the drivers to "remain calm and polite" on its website (Rosenblat & Stark, 2016). The study also points out that the problem is that Uber does not recognise the personal and financial cost of this emotional labour and does not explain how these forms of labour are taken into account in the evaluation of drivers' performance (Rosenblat & Stark, 2016)..

In addition to the non-recognition of these skills by the platforms, workers themselves explain that communication or emotional skills are acquired as they grow up or throughout their own personal lives. Being polite comes, for example, from the parental home and is linked to primary socialization. And so does the ability to keep oneself healthy (Workshop in Tallinn). It is therefore "logical" that such skills, deemed natural, are not certified. As highlighted by the workshop in Berlin, only a few workers noted that they had acquired social skills through training.

In Bologna, platform workers raised the issue of having to respond quickly as an invisible skill. Social acceleration appears twofold: the technical acceleration induced and enabled by the machine coexists and leads to an acceleration of the work of the platform worker itself. To illustrate this, examples such as clicking quickly, driving fast in the city or completing the maximum number of orders as quickly as possible, can be raised.

As a result, more than a strategy of online platforms to make the skills of their workers invisible (to pay them as little as possible), the skills of platform workers appear both largely invisible, imperceptible, and often not formalized or recognized, which makes it possible to associate the activities carried out by platform workers in general with unskilled work, and therefore to consider these workers as unskilled. The recognition of these skills put to work (whether physical, cognitive, social and political), a large part of which have been acquired outside and alongside the work activity itself, is a decisive step both to better remunerate them and to consider career development, including in related sectors of activity.

### 3. A broader conception of skills in a digitalized production and consumption environment

Literature regarding the definition and analysis of the concept of skill (as well as for competence, knowledge and attitude) is vast. But the discussion around this concept tends to focus on its technical and professional dimensions and the knowledge associated with the techniques of working procedures, developed via training and/or experience and assessed and certified by formal or institutional actors. In the context of the platform economy and the extended conception of (urban) citizenship we consider skills as a co-constructed, cooperative path, a key point for the sustainability of these “new” forms of platform-based employments (Huws et al., 2016). Evaluating, identifying and developing skills should not be seen as solely objective top-down processes, but as the result of an active social and political construction. Adopting this perspective on skills opens up a path in which citizens are not just data producers and consumers but active agents in the “construction” of an extended notion of citizenship within the condition of platform urbanization. The trajectory of a platform economy offers, in fact, a powerful scenario to co-construct and politically deploy the concept of skills, addressing the fact that most of the skills exploited in this condition are neither defined nor formalized, recognized, or, even less, trained or certified.

Being with others and building a collectivity together where everyone can feel responsibility and find the conditions to live a decent life in a platform realm requires the exercise of politics. Moreover, politics is nothing more than talking with others to build areas of mutual trust and to deliberate together in view of a common goal.

Depicting the skills as a political process, complex co-constructive thinking, represents an authentic inclination of the relational dimension of the human condition. What characterizes political thinking is the act of deliberating. If one assumes politics as a practice aimed at increasing the quality of life and making institutions functional to this goal, the function of the cognitive act of deliberating is to decide how to act to give shape to a collectivity (insofar as a world) that is comfortable for everyone. In this sense, to deliberate requires the exercise of judgment, which aims at providing a strict assessment of the facts. To judge shows the fundamental importance of thinking, because strict judgment, free from any tacit prejudice, is based on a way of thinking that competes with fundamental questions (what is good, right and beneficent), without succumbing to contingent criteria that are often dependent on fashionable ideologies. Judgment contributes to building a better collectivity inasmuch as it is free and such freedom is closely connected to the possibility of thinking.

According to the relational quality of the human condition, a good deliberative activity is the one that looks for agreement with the other. The word dialogue derives from the Greek *dialogos*, which is composed of *dia* and *logos*. *Logos*, which indicates reasoning, derives from *léghein*, a word that also means “to collect”. Dialogue then can be thought of as that conversational activity that binds the reasoning of the interlocutors to achieve an agreement. Dialogue has nothing to do with mere talking (an action in which everyone exposes their convictions without a precise orientation), nor with arguing, where the relationship between the participants assumes the dimension of a “battle”, where each individual acts to assert and defend his/her position. Dialogue is a discursive practice where speakers think together in order to seek an agreement upon which to found a shared act. The ethical principle that inspires dialogue is, therefore, cooperation and co-construction. In this sense, «dialogue of thought can take place only between friends» (Arendt, 1978, p. 284). A skill perspective that aims to prepare people to build constructive community life must distance itself from any competitive or top-down normative vision of thinking together, as the implication could be that good ideas can only be affirmed by dominating the interlocutor. A skill then takes shape not when the other is treated as an opponent to beat, but when he is considered as a peer with whom to build something together and to look for an «agreement based on the concordance of words» (Plato, Theaetetus, 164).

A cooperative way to set-up skills means that ambitious and useless differences of opinion are avoided, as well as compliant consent to every idea. If contrast is potentially destructive,

yielding consent risks leaving things as they are, that is, each one retains his/her opinion, without building a real community of thought. For this reason, being cooperative does not mean skipping the dialectical difficulties encountered during a confrontation, but assuming that discursive honesty that manages to appraise dissonance and difference as part of the open confrontation between parties looking for a performative outcome.

Platforms are re-shaping the urban and the modes of its production. To grasp this requires an extended understanding of (urban) citizenship; the nodal aspect is to make clear and improve awareness of such a changed nexus between individuals and collectivity, and correctly identify the connection between the technical and political characteristics of such a link. A pivotal role is played by the individual as the leading enabler of this nexus that needs to be defined at the urban level to be more concrete and widely understandable, since such nexus needs to find a practical ground of fruition (Soares Carvalho & Bignami, 2021). Citizenship grounded in the urban is improving the uniformity of rights and responsibilities linked with political involvement and, therefore, might potentially mitigate the political effects of social inequalities (Nyers & Rygiel, 2012) that platforms are generating.

The concept of skills needs, then, to be broadened in the context of digital production and consumption. The relationship between humans (worker and consumer) and machines (applications, AI, etc.) changes the traditional concept of skills.

Firstly, the types, forms and ways of distributing skills between workers and machines have changed. While initially the machine was most of the time present to increase production and relieve the worker of repetitive tasks, we can see a shift in this logic towards the machine being present to replace the human in some of the tasks or choices he or she makes. The machine then appropriates the skills or preferences of the human.

Secondly, automation leads to the loss of some human skills. Human autonomy is relinquished to automation systems and technology then takes over some human decisions.

### **3.1 What skills are required and put to work in a context of “new” relationships between humans (workers and consumers) and machines (apps, AI, etc.)?**

In recent years, a growing number of analyses have focused on the impact of digital platforms on the reconfiguration of markets and work conditions – known as “platform economy” (Kenney & Zysman, 2016; Schor et al., 2020), “sharing economy” (Schor & Atwood-Charles, 2017), “gig economy” (Vallas & Schor, 2020) or “platform capitalism” (Srnicek, 2017). The companies that own these platforms are making great efforts to theorize a new economy and work relations based on “sharing” and “community” (Ravenelle, 2017; Kirchner & Schüssler, 2019), hiding the fact that platforms evolve from simple digital tools for professional activities and market intermediaries between supply and demand to a new category of immaterial and impalpable employers (Aloisi, 2016; Friedman, 2014). The market power and information asymmetries of these platforms raise questions about the emergence of atypical forms of labour that they generate, the regulation of working conditions that they impose on their providers (cf. Transfer n°2 and n°3, 2017) and the evolution of the concept of skills in a context of new relationships between humans and machines.

In the context of the platform economy, we can observe new relationships between humans and machines: whereas the machine initially supported man, today it's the man that supports the machine (Cardon & Casilli, 2015). We can summarise this dynamic with the concept of “digital labour” (Casilli, 2015). Digital labour consists of all the digital activities of users of social platforms or mobile applications (Casilli, 2015). We can cite the activities carried out by Internet users who are paid to perform simple tasks (Human Intelligence Tasks) such as writing a short comment or making a short video (Casilli, 2015). There are myriad unskilled

clickers who support the machine by performing the necessary work of selecting, improving and making data interpretable (Casilli, 2019).

These are tasks that artificial intelligence cannot perform autonomously, but that once performed by humans can be algorithmically recomposed to produce data to feed databases that are then sold to clients (Casilli, 2015). The second activity is the production of content by simply visiting websites or searching for information in a search engine (Casilli, 2015). Users thus produce traces which are then valued and monetized (Casilli, 2015). Casilli cites as an example Google's reCAPTCHAs, a digital device by which the user must prove that he is not a robot by copying words. By informing this modality, he participates in the text digitisation project (Google Books) and thereby in the calibration of algorithms and the learning of artificial intelligences. We are witnessing a shift in skills from human to machine: the concept of digital labour helps to show how human skills are needed to inform machines or artificial intelligences. In a second step, the informed machines hold the skills that were first human. As a result, the machine exploits and dominates the platform workers, but also the platform users and/or consumers.

Platform users accept a form of exploitation and soft alienation induced by digital capitalism (Zuboff, 2018). On the one hand, they provide their personal data which is then extracted and sold on the market. On the other hand, their behavior and habits are finely analysed to match publicity and consumer goods with their interests. However, the machines based on big data make a shift by becoming part of forms of "algorithmic governmentality" that act on the information environment of individuals. The information imposed on the individual is the result of personalised algorithmic calculations based on the previous practices of the individual himself or his fellow human beings (Courmont & Le Galès, 2019).

Platform work is linked to algorithmic management which reinforces the asymmetry of power between platforms and workers (Dufresne & Leterme, 2021). If the platform worker does not want to get a bad grade and receive new and/or more work, he has to accept the set of tasks that the machine gives him. He is then dependent on the machine. The workers follow the machines.

*'If I take the job from Stratford and it takes me to Croydon and I keep getting jobs in Croydon, then I work in Croydon till I get some jobs coming somewhere else, you know? That's how it is... Well you know, just by the end of the day, 1, 1½ hours before I want to be home, I set my home address on 3 apps and wherever takes me closer, I go: I go closer.'* (WP2 - Uber Lon M 13)

Faced with this dependency and relying on their experience, platform workers tend to develop strategies to achieve their goals :

*« It's not so much the distance; it's about where it is. Because you could get to the edge of your zone and get a small order; it's not that far, but it's just going totally in the wrong direction, so it's quite hard to ... there's a way of navigating the zone that you sort of getting used to what's going to maximize your income. Basically, you don't want to be going to really residential areas, where there are no restaurants because once you get there, you're going to have to come back before you get a new order. Does that make sense? You want to end up in the middle of restaurants again, so you can kind of like get another order straight away. It's that kind of thing... Also, because of the way we're paid, we're paid to the front door. The distance is calculated, but how long it takes you to get in and out of a building is not part of the money. So sometimes, if I see big skyscrapers and it's very busy, I'll reject it, because it's going to take me like 10 minutes to get to the 30th floor of their apartment building and come back again. There are little things like that. »* (WP2 - Del Lon M 4)

We see in this quote that workers develop strategies to maximize their gain. First they develop temporal strategies: for example, by not accepting an order in a skyscraper so as not to waste time going to the 30th floor of a crowded building. Secondly, they develop geographical strategies, for example, staying in geographical areas with many restaurants where potential clients are more concentrated. These strategies seem to develop with experience and knowledge of the app.

In addition to these strategies, platform workers need to develop computer skills. These skills are essential in a process of work dematerialisation. Platform workers must be able to use the software that links the platform to the client. In addition to the ability and speed in knowing how to orient oneself in the technological environment of online apps and maps, “digital skills” can enable them to adopt strategies to get more work or to be better rated by the application. For example, platform workers need to understand that the rating left by the guests on Airbnb has an influence on how the platform will value the accommodation and therefore will determine the visibility that the ad will have on the site and on the app. For example, “savvy” hosts will be very careful to get a good review and rating, and therefore would thus be more inclined to give gifts to guests with the idea of improving their rating and in order to receive better visibility on the app. Visibility also counts for Deliveroo and Uber workers. Some drivers will not hesitate, for example, to hand out bottles of water to clients or to prepare playlists of music that their customers might like in order to get good grades and then, visibility, which, in turn, results in more chance to have work (assigned by the platform).

In the case of platform workers in London, several workshop participants mentioned that they do not understand how the algorithm works. Only two (of younger age and with higher educational skills) were confident about their understanding of the ways in which the algorithm works. In Lisbon, workers stressed that they wanted to know how platforms work and therefore how the algorithmic logic that governs it works. Platform workers say they need to understand the link between the platform and the algorithm and between the platform and the platform interface. The aim is to have a clearer and less obscure relationship with the platform. As a result, skills that will enable workers to understand how platform algorithms work will surely be very useful to improve their relationship with the platform, to assert their rights, but also to have the possibility of having a well-identified interlocutor to whom they present demands, in particular in terms of access to clear and transparent information.

One Airbnb host in Paris noted that mastering the algorithms and knowing how the platform works came with job experience:

*“There is a necessary apprenticeship. I didn't have any experience and it was weird for me to have to 'sell myself' and play the game. We're supposed to put comments and I didn't feel like doing that at all. But at some point, if you want to be successful in renting your flat, you have to play the game”. (WP2 – final report)*

Mastering the algorithm includes leaving comments to get more visibility and thus having more chance of renting your own apartment. Even when the host does not want to make comments on the guests, he or she ends up doing it. Without comments, rentals are rare. Thus, the platform, through algorithms, manages to change the behavior of hosts and force them to play its rules.

The specificity of the twofold logic of platform capitalism could be formulated in terms of the coeval presence of exploitation and dispossession (Fagioli, 2021). With the intention to improve its product and maximize its gain, platforms capture data about each worker's activity and performance (Fagioli, 2021). They collect information about drivers' behaviors, even when they don't have passengers (Casilli, 2019; Srnicek, 2017). Indeed, Uber drivers “provide information related to their age, gender, date of birth, address, bank account, phone number and approval for the tracking of the phone's geographical position” (Jamil, 2020:

245). The same could be said of the Deliveroo riders and clients: they are all targets for data extraction. The client's data are also appropriated by the platform. Along these lines, "all potential users are obliged to be watched – visible to the application's algorithmic eye – even prior to their full affiliation to the company's network of users (riders or drivers)" (Jamil, 2020: 245). Data capture and merchandising is a key element for the platform, well beyond the paid microtasks (Fagioli, 2021). As pointed by Roberto Ciccarelli "the labor force has acquired a new function: training algorithms" (Ciccarelli, 2018:27). Algorithms are trained to dispossess workers of certain tasks. By the means of algorithms, the platforms transfer the skills from the individual to the private companies, in other words, from the platform workers and the users to the platform. In the first instance, platforms appropriate the data created by the work of platform workers and the users. In a second step, this data will allow the automation of labor and thus its dispossession for platform workers.

We see then that the capacity of platform workers to become aware of their power of action is ambivalent. Their own perception of the activity they carry out can be read through the prism of ambivalence: they are exploited by the platforms but at the same time endowed with new capacity to act (Casilli, 2019). Digital labour can be seen as an activity that reconciles exploitation and empowerment (Dusi, 2017). Indeed, understanding "click work from the angle of exploitation and alienation may seem reductive: the performance of digital tasks is often assimilated to a vector of empowerment of Internet users" (Casilli, 2019). According to sociologist Eran Fisher, the active role of platform users (and, in our case, of platform workers alike) in the creation of value intensifies exploitation but ultimately - by stimulating expressiveness, sociability and the linking of members of the same platform - encourages empowerment (Fisher, 2012). The rise of digital labour is linked, on the one hand, to the cognitive and affective rewards that social media promise to data providers (Jarrett, 2016) and, on the other hand, to the prospects of integration into the world of "future work" that platforms promise to platform workers (Graham, Lehdonvirta, Wood, Barnad & Hjorth, 2018).

Indeed, platform workers are on the margins of the "traditional" labour market because they cannot find or cannot do "ordinary" work. By using the argument of flexibility, the platforms allow them to obtain an income, to "choose" their working hours and thus to be more included in society. The workers are aware that the platforms abuse their power and exploit them, while at the same time pointing out that the platforms give them the opportunity to work and thus, albeit minimally, to obtain an income. Thus, they are torn between a capability/empowering vision and a vision centered on exploitation (Casilli, 2019).

Platforms deepen and radicalise the standardization, the fragmentation and the outsourcing logics already present in the labour market and in work organisations for several decades. The Taylorist period of the 20th century already proposed a reduction of the productive gesture to a standardised sequence by fragmenting activities. However, we are today witnessing a form of new Taylorism in digital platforms and smart technologies. The radicalisation of Taylorian logic is to be found in the relationship between platforms and space: "since production can be organised anywhere, the physical place where automation is deployed is not fixed, nor is it limited to the perimeter of the traditional company. It takes place elsewhere. Better still: insofar as it can be broken down into myriad uniform tasks, it takes place, so to speak, in "many other places" (Casilli, 2019: 45-46).

By collecting and holding all the data, from users to workers, and passing through customers (whether it concerns personal data, preferences and choice of consumption, travel, etc.), platforms have an enormous power. Indeed, the financial valorization of this data is the main source of financial valuation of platforms. Data sovereignty is defined as the right and the ability to control and use autonomously the data collected (Golliez, 2021). In the case of platforms, the data - produced by workers, users and clients – belongs to the platforms and no strict legal framework seems to regulate its use (or sale), except the GDPR. The

technological skills that some workers asked for were related to access to the available data that platforms hold on them. They wanted to learn how to access this data and ensure that platforms process this data with justice and fairness. Labour Union Representatives in London have started an initiative to help them in such claim, since several Uber drivers and Deliveroo riders were excluded from these two platforms without clear justification or consultation. In order to ensure fairness in the access and treatment of data produced by platform workers, the absolute power of platforms over data must be balanced, i.e., digital systems need to be negotiated. Indeed, since the platforms are the only ones in possession of the data, they are the only ones governing it.

Christina Colclough developed a model with four stages illustrating the data lifecycle at work (Colclough, 2020). For this author, workers should claim their right in each instance:

- The first stage is related to “Data collection” and is about defending the right to information about different types of data: what technology is used to compile the data? What are the data sources? Do unions have access to the data collected and know about it? Do workers, users and clients have the right to refuse or block data collection?
- The second stage is linked to “Data analyses” and is about defending the access, correcting or blocking statistical probabilities based on available data: how are the collected data analysed? What are the workers' rights to access the data analysis? Are they informed of the results of the analyses conducted? Do they know that such processing exists? What are the conclusions drawn from the analyses? What influences do they have on workers? Can they object to the results of the analyses?
- The third stage is “Data storage” and is about defending rights for the workers to have access to the place where data is being held: where are the servers? Who has access to them? Under what territorial jurisdiction do they fall?
- The fourth and last stage is “Data off-boarding” and is about defending rights to be informed and able to act regarding the use of their data: are the data sold? To whom? Are they deleted? If yes, after how long? Can workers deny/block who they are sold to? This stage includes data sets, statistics and inferences.

Companies in the European territory are today under the jurisdiction of the General Data Protection Regulation (GDPR). This means that they have to comply with the rules related to the 4 tiers: i.e., rules related to data collection, data analysis, data storage and data off-boarding (Colclough, 2020). On the territory of the European Union, the protection of workers' data is more or less assured (Colclough, 2020). However, in the case of international platforms, the rights regarding data collection, data analysis, data storage and data off-boarding are very meagre - or even non-existent (Colclough, 2020).

In addition to having developed this very useful tool for understanding of the data lifecycle at work, the digital policy specialist emphasises that strong trade union work is needed to counteract the asymmetry of power and to safeguard workers' privacy and human rights. In this sense, collective agreements and regulations should be developed. Moreover, coordinated action would be necessary to defend workers' rights in order to avoid the oppression of opaque algorithms and predictive analysis by known and unknown companies (Colclough C., 2020).

These developments renew the question of human-machine relations and openly ask that of the way in which machines controlled by platform capitalism will in turn control platform workers in the future. For instance, Uber's ambition is to become the main player in the transport sector by developing artificial intelligence solutions capable of optimally managing autonomous fleets (Godin, 2015). However, some human skills cannot be replaced in platform work. As we have seen previously, platform workers from Airbnb have highlighted the hospitality they have to offer and the relational strategy they implement with customers.



In addition, they use everyday life skills like managing emotion, being polite or adapting to customers.

Today the influence of automation on work is not reduced to a process of replacing organic entities (workers) with artificial entities (bots, intelligent systems, etc.) (Casilli, 2019). What is at stake here is the digitalisation of human tasks. As previously explained, it is a distinct process, which changes the substance of work by taking two long-standing trends to the extreme: the standardisation of tasks on the one hand and the outsourcing of activities on the other hand (Casilli, 2019). For Marie L. Gray, it is not the replacement of humans by machines that we should expect but indeed the standardization and outsourcing of tasks:

*“This online piecework, or “crowdwork,” represents a radical shift in how we define employment itself. The individuals performing this work are of course not traditional employees, but neither are they freelancers. They are, instead, “users” or “customers” of Web-based platforms that deliver pre-priced tasks like so many DIY kits ready for assembly. Transactions are bound not by employee-employer relationships but by “user agreements” and Terms of Service that resemble software licenses more than any employment contract. Researchers at Oxford University’s Martin Programme on Technology and Employment estimate that nearly 30% of jobs in the U.S. could be organized like this within 20 years. Forget the rise of robots and the distant threat of automation. The immediate issue is the Uber-izing of human labor, fragmenting of jobs into outsourced tasks and dismantling of wages into micropayments<sup>2</sup>.”*

Through the automation of machines, Hegel hoped in for the disappearance of forms of work that prevented the worker’s participation in the totality of the labour process (Delhey, 2018). According to him, it was possible to hope that automation would include the advent of freedom through self-realisation. Free from mechanical tasks, guiding machines, humans would have the ability to follow a work process from start to finish. This prophecy seems to be behind us. Today the influence of automation on work is not in connection with freedom. The automation is linked with voluntary servitude and the transformation of work through outsourcing and standardisation of tasks allowing a reduction of costs through the reduction of human wages.

### **3.2 Skills to voice claims and to improve new forms of professional regulation and work organisation in the platformized economy**

The skills of platform workers are also related to their capacity to organise participatory processes in a bottom-up model, to set right claims and mobilisations, including between cities and on an international scale, despite the extreme individualisation of their working conditions, the diversity of the hiring conditions and the very important turnover among the labour force. These skills, which can be characterized as political skills, have been shown in the many mobilizations that have been undertaken in different countries and at different latitudes since the 2016 first strike in London (Negri 2021; Cant 2019; Tassinari & Maccarrone 2020 ; Vandaele 2018 ), including during the pandemic period linked to COVID-19 (Dufresne & Leterme, 2021).

In their report, Dufresne and Leterme present three mobilisations of platform workers that took place during the pandemic. The first mobilisation is an example of how digital is proving to be a resource for spreading advocacy messages. Indeed, through a transnational awareness-raising web video, the workers demanded that their work being paid by the order and not per order. This claim is in order to avoid a performance-based system that forces workers to go too fast.

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<sup>2</sup> Gray L. M. (2016). Your job is about to get “taskified”. Los Angeles Times. [\[Online\]](#)

“In June 2019, a major campaign was launched in the wake of a series of fatal accidents involving couriers at work. The slogans: “Precariousness kills”, “Glovo kills”, “Uber kills” repeatedly decried the fatalities. To lead the campaign, the couriers created a “transnational awareness-raising web video” in which couriers from various countries announced “I am Pujan”, “I am Karim” ... in homage to all couriers killed in recent months. Speaking out about the dangerous nature of the job, they set out some important demands about work being paid by the hour and not per order as well as abolishing the performance-based system that forces them to speed up delivery times so as to get the next order.” (Dufresne & Leterme, 2021:57)

The second example highlights that platform workers from around the world are joining the movement especially because workers can organise themselves digitally. These are transnational movements:

“On 25 and 26 April 2019, a couriers’ meeting took place in Barcelona. Organised by the collective Riders4Derechos, it was entitled “My boss is not an algorithm”. It saw the participation of couriers from Spain, Italy, the UK, France and Germany (FAU), but also from Argentina and Chile! The TFC isn’t just limited to Europe... » (Dufresne & Leterme, 2021 :58)

Mobilisations are also taking place in South America:

“Four international strikes have taken place since the beginning of the pandemic: on 29 May, 1 and 25 July and 8 October. Tens of thousands of motorcyclists paraded on their motorbikes and bicycles in front of the ministries of labour in Mexico, Guatemala, Costa Rica, Ecuador, Peru, Brazil, Chile and Argentina. From Brasilia to Buenos Aires, from Santiago to Mexico City, Latin American couriers have organised to demand greater social protection and access to labour rights guaranteed by national laws, as well as a series of measures to respond to the Coronavirus emergency. Some of the demands include personal protective equipment, sick leave, life insurance, compensation for the families of comrades and companions who have lost their lives at work, suspension of the grading system that sees them forced to work seven days a week, 12 hours a day, as well as increased payment per delivery and per kilometer during the period of the health emergency<sup>40</sup>.” (Dufresne & Leterme, 2021:58-59)

And all over America:

“Alongside the European GA process which has already been described in detail, the wave of mobilisation on the American continent described above led to another form of coordination, a global one this time, called UnidXs World Action (UWA). The alliance was formed in October of the same year and brings together collectives, associations, trade unions and activists. The sectors represented include couriers, but also organised drivers. The Alliance’s very broad ranging mission is to “improve the lives of couriers and drivers by improving their working conditions around the world”<sup>44</sup>. Coordination is governed by the direct participation of workers through assemblies of collective representatives and democratic voting. Having begun during the pandemic, these assemblies are held by videoconference. Strategically, to promote its demands, the UWA chooses direct action through work stoppages, marches and other demonstrations such as those described above. As a first step, UWA would like to establish collective bargaining protocols, that guarantee that workers are involved in regulating the platform economy, and would also like to work with independent lawyers to bring international legal action against violations of labour rights and health and safety standards by digital platform companies.” (Dufresne & Leterme, 2021:59-60)

The mobilizations also had the result of building alternatives to existing platforms by creating others in the form of cooperatives, based on a competing algorithm created from scratch (for concrete and international illustrations, see Dufresne & Leterme, 2021: 101 and following).

The creation of “platform cooperatives” quickly became necessary to respond to the problems linked to the platformisation of the economy (Dufresne & Leterme, 2021). A platform cooperative uses “a website, mobile app, or protocol to sell goods or services. They rely on democratic decision-making and shared ownership of the platform by workers and users<sup>3</sup>”. There are now hundreds of platform cooperatives that seek to defend the reappropriation by platform workers of their work tools and digital data (Scholz, 2016). One example is the “Coopcycle cooperative”, a federation of delivery cooperatives in France and in other European countries which has now over 40 members<sup>4</sup> throughout the world.

As Dufresne & Leterme write, “*CoopCycle is a European federation of local bicycle delivery cooperatives. Launched in January 2018, the association has rapidly expanded throughout Europe, growing from 26 member collectives in September 2019 to more than 42 today, spreading over 9 countries, mostly in Europe : Germany (4), Belgium (4), Denmark (1), Spain (6), France (17), Poland (1), United Kingdom (3) and Sweden (1), but also Canada (2), and requests are coming in from collectives in South America. Most of the deliveries offered concern parcels or goods and, to a lesser extent, meals or food. However, very few collectives specialize solely in meal deliveries*”.

It is important to stress that most of these collectives of workers that have given birth to cooperatives or cooperative projects have been created by former couriers working for multinational platforms and seeking better working conditions and both better and more regular remuneration. Dufresne & Leterme (2021) explain more in detail the specific functioning of the network that guarantees quality jobs and lies on pooling of services. The functioning “*is thus based on solidarity between cooperatives and enables them to reduce their costs by pooling their services. The services pooled are varied: support for business development, training, exchanges of skills or the provision of funds for fledgling projects. At the same time, various solidarity mechanisms have also been set up: an aid fund in case of difficulty, payment guarantees, joint insurance for delivery personnel and transported goods. The services are co-financed by fees paid by the federation's members*”.

The authors insist furthermore on the fact that “Coopcycle” is the name of both the federation and the software using open code, designed from the very start as “a common good returning power to workers”. “*Coopcycle is the name of the federation but also of the software, a complete cyclo-logistics tool using open code. It allows cooperatives to manage their journeys, and shopkeepers, restaurant owners and customers to access the service. It is protected by a reciprocal licence (Copyleft), with usage restricted to delivery cooperatives alone. In doing so, the association is therefore also developing a very specific political vision: the creation of an anti-capitalist economic model, based on the principle of the Common. Coopcycle also aims to spread the use of the licence to platforms operating in other sectors or to develop agreements with town halls to develop new forms of public services. For some, however, these political objectives remain a “commercial argument”, primarily aimed at attracting clients, as in the case of the mention of an environmental concern by the majority of collectives (see Annex I), while for others they are steadfast principles. Although the commitments vary according to the collectives, few of them are openly militant against the platforms and/or linked to trade unions.*” (Dufresne & Leterme, 2021:103-104)

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<sup>3</sup> Platform Cooperativism Consortium [\[Online\]](#)

<sup>4</sup> <https://coopcycle.org/en/>

However, it is still difficult to create such platforms today, given the macro-economic and legal environment that largely works against them and the difficulty of obtaining funding (Dufresne & Leterme, 2021).

The impact of platform economy on forms of labour is similarly observed across the globe and is therefore receiving considerable attention, calling for forms of public intervention as well as rising political protests in many different ways (Fabo et al., 2017; Stewart & Stanford, 2017; Tassinari & Maccarrone, 2017; Newlands et al., 2018; Dif-Pradalier & Dufresne, 2019; Dufresne & Leterme, 2021). The dependence of workers on the instructions of platforms raises many controversies, particularly legal, around the status of these workers and the lack of social protection linked to the self-entrepreneurship that is imposed on them (De Stefano, 2016; Gomes, 2018). Away from the standard employment relationship, platform workers are considered as self-entrepreneurs and are deprived of the advantages linked to the status of the employee (Stanford, 2017). Moreover, algorithms often organise and control their work and put them in fierce competition (Moore & Joyce, 2020; Rosenblat & Stark, 2016; Stark & Pais, 2020). In addition to being deprived of trade union organisation (Tassinari & Maccarrone, 2017), this dimension makes their collective mobilisation unlikely (Abdelnour & Bernard, 2019). Platforms are thus instilling, with particular evidence in cities, unprecedented fronts of inclusion and exclusion, participation and division, social and political aggregation and disaggregation. This results in a redefinition of labour by a reconfiguration and/or the emergence of new categories of actors, and new forms of relations and bargaining.

The urban space, where most of the economic activity of platforms is concentrated, constitutes a privileged scale to observe the economic and social transformations caused by the platform economy. It is in urban spaces that the greatest activity of platforms is taking place – whether for home meal delivery (Deliveroo, UberEats, Foodora, etc.), chauffeur-driven vehicles (such as Uber) or temporary apartment rentals (symbolized by Airbnb). It is also on this scale that the first grassroots initiatives for the improvement of working conditions have recently emerged – such as the Charter of fundamental rights of digital labour in the urban context, signed in Bologna on 31 May 2018 – and that public authorities deploy their efforts to regulate certain types of platforms, particularly in the field of short-term rentals in accommodation (Aguilera et al., 2019; Serrano et al., 2020). In this sense, two of Europe's cities most affected by over-tourism, Florence and Venice, have recently launched a "Decalogo" – a list of Ten Commandments addressed to the Italian national authorities, among which is a claim for regulating short-term rentals. The junction between urban spaces and platforms captures the essence of a technologized urbanity and a relational process that implies "negotiating new tactics, new players, new governance models and new data-driven business strategies, and new interfaces for everyday interaction" (Barns, 2020). Driven, both financially and ideologically, by the growing value of data accumulation, this ongoing process of "platform urbanization" is transforming urban citizenship (Hanakata & Bignami, 2021).

The COVID-19 pandemic can be seen as an accelerator and an indicator of ongoing transformations and initiatives that are taking place in the labour market and terms of articulation between the levels of (territorial) governance and forms and dynamics of collective mobilization and action (Pirone et al., 2020). Indeed, the measures taken by the authorities forced many businesses to close (ILO, 2020). The use of platforms in several sectors has therefore increased. Moreover, the pandemic has made the precariousness and vulnerability of platform workers even more visible (e.g. Rani & Dühr, 2020; Valencia Castro et al., 2020), despite emergency exceptional support measures decided by governments, but also by platform companies themselves (OECD, 2020). Platform workers' mobilizations, especially in the logistics and food delivery sectors, have also become more numerous and stronger (Trappmann et al., 2020). In this regard, for the first time in Italy, almost 40,000 Amazon workers from the whole supply chain (including its hubs and delivery drivers) held a national strike on March 22, 2021 to demand better conditions from the online shopping giant.

While platform workers have to deal with a very high degree of individualization of their working and employment conditions and are deprived of collective representation, they still have demonstrated their capacity in organizing and defending their rights, gaining notable media visibility in recent years and even more during the pandemic (e.g. Polkowska, 2020; Tassinari & Maccarrone, 2020). Platform work and workers confront trade unions, which were historically built on the defense of the core of standard employment, with many challenges: in terms of categories of workers represented, skills recognition, alliance strategies, levels of regulation, repertoire of action, etc. Historically, trade unions remain attached to their national sphere where they control both language, political culture and decision-making process (Martin and Ross, 1999). Mobilizations and collective actions are therefore most often organized according to political agendas and rhythms that are distinct from one country to another (Tarrow, 2005), and mobilization is most often lacking in a transnational dimension and on Euro-claims. In this sense, the first pan-European assembly for workers from hot meal delivery platforms (such as Foodora, Deliveroo, UberEats, Stuart and Glovo) held on October 25 and 26, 2018, in Brussels, and the internationally coordinated strikes during the summer of 2020 in the food-delivery sector, are of great interest, both for social movements and academics, as potential new structures for revitalizing trade unionism (Dufresne & Leterme, 2021). In fact, mainstream unions play a vital role in defending platform workers' interests, especially in western Europe (Joyce S. & Neumann D. & Trappman V. & Umney C., 2020). Mainstream unions rely more frequently on legal challenges, while unofficial unions rely more frequently on strike actions (Joyce S. & Neumann D. & Trappman V. & Umney C., 2020).

In some cases, movements are structured around leaders and professional organisations, some of which are linked to workers' unions (Abdelnour & Bernard, 2019). In Belgium, for example, the Deliveroo riders have used an intermediary to organise and legalise the status of employees (Drahokoupil & Piasna, 2017). In other cases, the riders themselves organise demonstrations in France but also in other European countries (Abdelnour & Bernard, 2019). They coordinate to challenge the working conditions imposed on them by platforms (Abdelnour & Bernard, 2019). At the same time, legal action is being taken in several countries against transport and delivery platforms to have their workers' partnership contracts reclassified as employment contracts (Abdelnour & Bernard, 2019). The aim is to demonstrate that the platforms do not only play a neutral role as intermediaries between customers and service providers (Abdelnour & Bernard, 2019).

The links between these platform workers and trade unions are, however, very different from one country to another: they are collectives of self-employed workers, linked to institutional unions (sectoral or inter-professional), to independent unions, or even to autonomous unions. The "grey zone" (outside labour law) developed by the delivery platforms can thus be considered as an "opportunity structure" for the European, but also the international social movement in the making.

The different categories of actors confronted with the platform economy (workers, unions and public authorities) encounter many difficulties in organizing at the international level. Most of the time, workers mobilize at the city level, while unions are organized at the national level. As for public authorities, their scope of action and the actions they take vary greatly from one city and country to another (see Aguilera et al., 2019 about Airbnb; Thelen, 2018 about Uber). However, efforts in this direction seem to be able to move the lines, as demonstrated by the proclamation of a Transnational Federation of Couriers, in October 2018, which includes 12 states and 34 organisations. Another exemple is the Alianza Unidos World Action (<http://unidosworldaction.com/>), a collection of more than 30 groups across the world fighting for the rights of ap-based workers. Collectives of delivery workers, trade unions and researchers are also multiplying in several European countries, such as the Don't Gig Up

project and the Digital Platform Observatory, both funded by the European Commission, or the journal *Notes from Below* led by British researchers. Echoing these considerations, it was stressed during the workshops that a network defending the interests of platform workers already existed in Barcelona and Lisbon. However, it was neither formalised nor coordinated. In Bologna, it was raised that interests can be promoted by connecting people through informal relationships: the platform, colleagues, Facebook groups or blogs and Unions. Although the ways of defending rights differ between European cities, given the variety of the defense structures already in place or even sometimes non-existent, all the actors involved in the workshops, however, underlined a common demand: workers must get a better income and if training is developed, it must be included in the working time.

Workers' fightback has indeed already begun (Srnicek, 2017). The protest will inevitably increase the platforms' operating costs (Srnicek, 2017). According to the calculations made by a group that brought a class action suit against Uber, if its employees were treated like regular employees, Uber would have to pay them \$852 million (Srnicek, 2017: 123). Uber estimates the amount to be \$429 million (Srnicek N, 2017). In short, if the most basic labour law were applied to its employees, Uber's economic viability would be compromised (Srnicek N, 2017).

The modes of expression (levels, alliances, etc.) and the purpose of the mobilizations are Multiple. Some authors point out that this dimension affects the stability and operationalization of struggles (Cardon, 2019). Other obstacles to collective action have been analyzed by studies on "unlikely mobilisations" (Collovald & Mathieu, 2009): atomisation of work, the precariousness of incomes and status, low professional seniority and weak union presence (Abdelnour & Bernard, 2019).

Indeed, although the monopoly of representation allows trade unions to concentrate the entire workforce in a single organisation to maximize negotiating power and optimize its demands, its presence "in the field" is also generally limited, although it varies according to the configurations. This can be explained by the fact that its exclusive status poses a major challenge for its own survival and generates a contradiction between core and peripheral interests and groups that represent them. Indeed, unions face great difficulties if not impossibilities in articulating positions aiming at reconciling the wishes of the majority of an unionised group with the divergent demands of the individual(ised) and peripheral employees who no longer recognise themselves in the collective orientations taken by their union (Nadeau, 2012).

As previously mentioned, another dimension of the "unlikely mobilization" of platform workers is linked to the fact that the subjects of protest are diverse and thus not very palpable. The main cause of protest is pay (Joyce, Neumann, Trappman & Umney, 2020). Geographical variations are felt when it comes to other issues (ibid.). In addition, the issues appear to vary more substantially between regions than between industry issues (ibid.).

In addition, it was noted that Uber drivers tend to think of themselves more as competitors than as a united group, defending collectively common interests and capable of forms of solidarity (Abdelnour & Bernard, 2019). Moreover, their working hours do not leave them much time to take a break and establish a collective (ibid.). It is also stressed that they do not have the "biographical availability" identified as a resource for militant commitment and mobilization (McAdam, 1988). Some platform workers in London mentioned that they did not know where to find support when they were discriminated against by platforms. These were mostly workers who knew very little about labour union organizing, how unions could support them in their individual claims and how they could facilitate coordination with other workers in order to launch legal actions, protests, strikes and other forms of collective actions.

Finally, going on strike is particularly costly for self-employed workers, as the slightest interruption in work results in a loss of income (Abdelnour & Bernard, 2019).

Although the grievances are diverse, other authors point out that mobilizations have been taking place for some years because solidarity was built up between workers (Tassinari & Maccarrone, 2020). While platform work is characterised by a strong individualisation of the organisation of work, solidarity between workers is nevertheless based on the structural contradictions arising from the work process (ibid.). By managing to unite the various grievances, platform workers have become aware of their common interests and have become ready to act accordingly.

*“I’ve been thinking, [...] how does the labour movement form when there is no shared space, like, physical space? But as long as there is a shared condition, as long as two people interact at some point and they find some way to communicate with each other, it doesn’t matter if there is no shared factory space, because there is a shared condition. Which is, the job is bullshit. (UK8) » (Tassinari & Maccarrone, 2020 :43)*

Despite their extreme individualization due to the way the workforce is managed, platform workers have shown, on some occasions, their capacity for collective action. This observation calls for the promotion of conditions that favour the emergence of such a form of solidarity between workers.

An investigation of mobilisations in London and Italy highlighted that the emergence of solidarity is facilitated by overcoming individualisation and developing consciousness in action (Tassinari & Maccarrone, 2020). On the one hand, platform workers took advantage of common delivery waiting points to go beyond individualization; waiting in central squares, parks or outside busy restaurants is an occasion to consolidate social ties but also to facilitate the articulation of shared grievances and to allow riders to exchange opinions and phone numbers (ibid.). On the other hand, virtual meeting spaces also allowed the development of a shared consciousness (ibid.). Consciousness is also developing in action: shared identity forged through the experience of mobilization itself. Seeing each other and being recognized as a collective of workers in public opinion and media representations empower workers’ participation (ibid.). The two authors classified three possible forms of expression of solidarity from platform workers. The first is the day-to-day mutual support by sharing resources, practical help and voicing complaints to management. The second is by the low-risk participation in collective action: individual logging out and abstention from shifts, distributing flyers or online “shitstorms”. The last one is in visible forms of collective action by wildcat strikes and flying pickets, public demonstrations and legal action.

Concerning legal actions, the legal debates focus on two issues: the first one is related to the argument of platforms as “neutral” intermediaries (Nasom-Tissandier & Sweeney, 2019); in this sense, platforms are thus not subject to legal obligations relating to work. The second key question concerns the social status of platform workers (ibid.) : can they be considered as employees of the platforms or should they remain self-employed? As an example, the Court of Appeal in Paris requalified an Uber driver in a judgement of January 10, 2019 (Méda, 2019). The court considered that the worker was under the subordination of the platform for two reasons. The first is that the app is equipped with a geolocation system allowing the platform to track the driver’s position in real-time (ibid.). The second reason is that Uber has the power to sanction the driver (ibid.). Another example of employee requalification comes from the Netherlands: on September 13, 2021, the 4,000 Uber drivers were granted “employee” status by the Dutch authorities instead of self-entrepreneur status. Uber will therefore have to join the collective labour agreement for taxi transport. According to the Amsterdam court, drivers are not free since it is impossible for them to refuse fares too often, insofar as this would inevitably result in their eviction from the platform.

In addition, the subordination of platform workers is thus expressed not only by the constant solicitations they receive but also by the constant recording and evaluation of their behavior (Casilli, 2019). Digital labour is thus part of the long history of surveillance at work. However, surveillance is different because it does not presuppose a circumscribed place where attendance at work can be monitored (ibid.). According to Casilli, the recognition of digital labour is a major political objective since it contributes decisively to give "digital workers" a real class consciousness as producers of value (ibid.). In the concluding chapter on issues at stake for the social protection system, we will discuss this element in more detail.

### **3.3 Skills for platform economy and (digital) citizenship**

In their groundbreaking 2008 work, Mossberger et al. (2008) elaborated on traditional concepts of citizenship as political and economic participation and practice to place the basis for a definition of digital citizenship, by linking the capacity not only to technically use, but rather to appropriately use for precise scopes, platforms and digital tools. Digital citizens are then defined as those who engage in citizenship practices via digitally-mediated technologies. The scholars describe digital citizenship as the ability to participate in society online before defining digital citizens as "*those who use the internet regularly and effectively – that is, on a daily basis*" (p. 1). Indeed, later in the same work, Mossberger et al. (2008a) describe daily Internet use as "*our proxy for digital citizenship*" (p. 107). Though, they argue that frequent use is an indication that digital citizens possess both the necessary economic capital to access the Internet, as well as the digital capital in terms of skills and capability, to fruitfully utilize the benefits offered by the platforms for participation, civic engagement, and economic gain. Conversely, infrequent use may indicate that individuals do not possess the capital to effectively participate in platform-mediated spaces. Furthermore, Mossberger et al. (2008a) argue that people can increase their digital skills with regular Internet use, and thus be able to more fully take advantage of the resources available via the Internet. In other words, using economic and digital capitals for online citizenship practices enables individuals to gain further capitals, and improve both individual and social economic and participatory benefits.

It is, however, arguable that defining digital citizenship by the usage of platforms and access to the Internet is problematic, since frequent use does not necessarily mean "effective" use (a term that is also not clearly defined, but refers to the use of the Internet to access information in order to be socially, politically, and economically engaged).

Despite Mossberger et al.'s (2008) focus upon regular and frequent access and use of the Internet, digital citizenship requires some initial digital capital, such as digital skills, to be able to access and take advantage of the benefits the platforms offer. Manifold and additional factors, such as having economic and digital capitals to access digitally-mediated spaces, have to be added to the frequency of platforms and Internet usage and the ability to be digital citizens (see, for example, Greenhow, Walker, & Kim, 2009; Oyedemi, 2015; M. J. Stern et al., 2009).

In an increasingly platform-mediated society, technology use is simultaneously an opportunity as well as a necessity for participation. It means recognising the everyday moments of citizenship that occur within collective online and offline spaces. Access to and use of platforms and the Internet makes available educational opportunities and employment databases, providing also increased employment scenarios (Hargittai & Hinnant, 2008).

As Boyd (2014) notes, "*although it is not necessary to be technically literate to participate, those with limited technical literacy aren't necessarily equipped to be powerful citizens of the digital world*" (Boyd, 2014, p. 183). Youngsters, according to the scholar, require an understanding of the technology they use to fully understand and make use of the existing means allowing active participation and contribution in a digitally-mediated world. Although a consistent part of the research exploring the ways in which workers use digital spaces and opportunities does not use the term "digital citizenship", a look at empirical research



highlights how the definition of digital citizenship offered by Mossberger et al. (2008) is debatable. Mossberger et al. (2008) highlight participation in society but with a focus on individual usage, skills, but also individualistic gain. The emphasis on the frequency of use, on inequalities of physical and material access, largely ignores the realities that limit participation in digital spaces, such as economic, social or geographic restrictions. Similarly, equating frequency of use to possessing and developing digital capital in terms of skills and competencies ignores the multiple ways people may participate in digitally-mediated spaces. In the same way, it assumes that quantity of usage means quality, which wider research contests (D'Haenens et al., 2007; Hargittai & Hinnant, 2008; Hargittai et al., 2018; Livingstone & Helsper, 2010; Ono & Zavodny, 2007; Isin & Ruppert, 2020; van Deursen & van Dijk, 2013). Digital citizenship needs to take into account the different ways in which people do participate in digitally-mediated spaces and build connections and belonging, rather than the frequency of that participation.

Citizenship, on other hand, is often understood as a status, or a membership. Instead, it is not a fixed concept but the result of enacted practices, the outcome of performed processes (Clarke et al., 2014; Pykett, Saward, & Schaefer, 2010). It is through the claiming of substantive rights and the fulfilling of citizen obligations that citizens engage in the “*social, political, cultural and symbolic*” practices that constitute citizenship (Isin & Nielsen, 2013, p. 17). It is through performing citizenship practices, such as taking an active role in political activity, understanding the most suitable way to have a political say (of course beyond voting), that we ‘become’ citizens (Isin & Nielsen, 2013; Pykett et al., 2010). In other words, what it means to be a citizen moves beyond the legal status of formal citizenship, beyond the rights and responsibilities of substantive citizenship, in order to include the performing of citizenship practices. Citizens learn the norms of being a citizen by following the practices of collective citizen *habitus* in their context. By doing citizen practices within different contexts, citizens shape their citizen *habitus*. Isin (2013) points out that this learning of practices shows citizenship values are learned and not inherited.

As Yarwood (2014) observes, “*citizenship provides a way of analysing daily practices and linking them to political and social structures*” (p. 249). It means that through engaging in daily practices of citizenship and making sense of their lived experiences, individuals acquire skills that trigger understanding of themselves as citizens in relation to others, to the socio-political framework and the place and space.

When conceptualising citizenship, the focus is often on the individual as the actor performing moments of citizenship while constructing its own citizen practices. However, Isin and Nielsen (2013) argue for a focus upon the act rather than the actor. It is acts of citizenship, they argue, that produce new subjects and new ways of being. In other words, it is what is done that creates the citizen subject. In the same orientation, Asen (2004) argues that “*focusing on what counts as citizenship*” (p. 190) obscures the ways citizens practice citizenship and drives to a narrow focus evaluating previously decided and established acts. Following this orientation, defining digital citizenship, and what counts as digital citizenship, “*a set of activities for people to adopt*” (Asen, 2004, p. 191) that limit alternative practices of digital citizenship. Asen, therefore, pleads in favor of a reorientation of the question from ‘what’ to ‘how’ citizenship is enabled, a move that would conceptualise citizenship as a process of doing, enabling individual agency in citizenship practices and providing opportunities for politically and socially alternative expressions of citizenship. At this point, it is then crucial to push forward the analysis, by considering all these dimensions, and the ways in which skills are at stake and evolve are in the new platform-mediated contexts.

Technological and political developments have blurred the meaning and content of the concept of citizenship, but also that of connection and membership. Digital technologies and platforms have further challenged concepts of communities connected to place, such as allowing individuals to join geographically-diverse communities that are based around shared norms and interests, but at the same time located in digitally-mediated spaces. As platforms and the Internet are opening new spaces for citizenship, new ways of being and doing citizenship have been made possible. As a result, a new way of thinking about citizenship

that accounts for citizenship practices in platform-mediated spaces has been labeled “digital citizenship”. However, distinguishing digital citizenship from citizenship is disputable since digital spaces are anchored in a material environment, though mediated through platforms and digital technologies (McCoster et al., 2016). Online spaces can rather be thought of as digitally-mediated interrelational spaces where citizens perform political and social co-constructed citizenship practices (Quodling, 2016; Massey, 2005). Digital citizenship can hence be re-conceptualised as digitally-mediated citizenship. This mix of online and offline spaces highlights that how we think of citizenship influences and informs the way we think about digital citizenship.

Different concepts of citizenship give rise to particular constructions of digital citizenship and associated skills. If citizenship is viewed as a formal status that privileges rights and duties that may be taught, then platforms become a tool that may be used to enable digitally-mediated citizenship skills (Selwyn, 2011) in a top-down direction. In the same way, formal citizenship signifies the right and ability to be present in place and space, and within this model, skills allowing access to technology and platform-mediated spaces are what could be seen as a symbolic capital attached to a social status. Moreover, even though platform-mediated spaces are not necessarily confined to a geo-political place, they are, like physical spaces, potential bearers of identical rights and legal obligations for all. In this sense, platform-mediated spaces can push nation-states and urban governments to make judicial changes or enact new laws to help enforce rights and obligations.

Having said that, while a model of digital citizenship as status may imply a right to access digitally-mediated spaces, there is currently no obligation for nation-states nor other local governments to provide access. Similarly, there are no obligations for citizens to become proficient users of technologies. Digital citizenship based on a slight understanding of skills is about access, but not on a political and social level of practice. The participatory model of citizenship, however, incorporates expectations of political and social participation alongside rights, other responsibilities and agency to society. Extrapolating this complex concept of digital citizenship including political and social skills gives rise to expected behaviors of digital participation much more complicated and politically committed than a mere matter of use capacity, frequency and access.

Furthermore, in the vein to consider digital citizenship as a complex assemblage quite far from a mere technological angle (as will also be highlighted below about the political nature and value of skills) it is important to emphasize again the pronounced political nuance of digital citizenship. Often, when discussing platform-mediated citizenship, traditional concepts of citizenship as the democratic ideal (Dahlgren, 2005) are invoked. Differently, Falk (2011) draws upon civic and political concepts to define digital citizenship as connection, communication and collaboration, in particular the “*technology enabled interaction between citizens and government*” (p. 157). Vromen (2017) points specifically to the potential for digital citizens to engage in new forms of political action and engagement via platforms. An important standpoint draws upon “the political citizen” to focus on the everyday performance and practice of digital citizenship as a responsible and responsive form of “political struggle” that is exploited through acts of citizenship and rights claims (Isin & Ruppert, 2020). In a similar direction, Vivienne et al. (2016) draw together multiple authors to structure digital citizenship as acts of citizenship within processes of control (or governance), contest (challenging attempts to control), and culture (new ways of doing citizenship) to be developed through skills. Meanwhile, Emejulu and McGregor (2016) argue for digital education to re-politicize digital citizenship with a commitment to social justice, whilst others (Powell & Henry, 2017; Sullivan, 2016) indicate governance and legal processes to protect the freedoms and rights of digital citizens. With regard to skills able to balance a process of increasing platformization, it is finally worth highlighting how an analogical use of the concept of citizenship based on its modern use in the offline world merely translated into the online environment might lead to some new kind of digital enlightenment, but it might also create a homogenized society. A compact platforms system freely agrees on rules of fair play and mutual support to supply skills to overcome what is called the digital divide, but it can also

support the creation of all kinds of monopolies based on norms and regulations in order to increase private profit with disregard for the privacy of users, as well as for the common good of society.

## **4. Concluding remarks and issues at stake**

In this concluding section, we extend the analysis proposed in this report by successively addressing three important issues linked to the concept of “skills” in general, but also more precisely, in connection with how it is deployed in the platform economy.

First of all, the concept of skills places training systems in the face of both renewed and new challenges. While the pace of technological developments and the opportunities / risks they create in the labour market call for regular updates (in terms of capacity for use or regulation updates in particular), particularly among platform workers, the latter are also hardly encouraged or inclined to train, and the training offer is poorly suited to their needs and expectations. Issues raised here are also linked to the recognition of skills (or the effects of their non-recognition) by employers who often refuse to be recognized as such and have to assume the responsibilities and duties that result from it.

A second set of issues follows and concerns access to social protection rights. In platform work,

workers are only paid in strict accordance with the performance of a given activity. All the risks and contingencies linked to the performance of this activity (or arising from its non-performance) must be assumed and supported by the workers themselves. In a context of increased and encouraged professional mobility, the questions in particular of identification and certification of skills, as well as those related to their recognition, in particular between different working environments and employers, acquire a crucial importance, from the point of view of professional development potential for individuals, but also of growth for companies. The pandemic linked to Covid-19 has also highlighted the decisive issue of the continuity of income beyond the intermittence of activity and the flaws or holes in the already existing social protection systems, made visible in particular by the implementation of emergency measures. The question of an unconditional basic income, brought up to date in this context, is addressed in another WP of this project and will therefore not be dealt with here.

A third set of issues is finally linked with conceptual issues and its political and civic implications. In platform economy, the promotion of its economic model is based on speeches extolling flexibility-freedom (“I ‘work’ if I want, when I want and how much I want”) to the point of making work itself disappear behind the game (playbour, gamification), odd jobs (gig) or leisure (weisure). These speeches have their corollary in that they consider both platform workers and platform work as unskilled. The results from the entire PLUS project have clearly shown that this is not the case and indicate new collective and innovative ways in defining skills.

These observations call for targeted interventions, in particular on the part of public institutions, not to leave workers alone (or at the risk of finding themselves alone), where they have to adapt to the transformations of the world of work in which they must integrate. If workers must be equipped to perform in a platform economy, the platform economy and platforms themselves must also be equipped to allow the professional integration and development of the former.

### **4.1 Issues for training models/systems both initial and continuous**

Training today faces a paradoxical challenge: on the one hand, authorities are trying to contain the growth of training budgets, and on the other hand, there is a desire to get all workers to acquire skills (Boboc & Metzger, 2019). Even though employees have unequal access to continuous training, what about platform workers? This chapter will discuss the issues for innovative training models or systems both initial and continuous.

To make (continuing) training accessible to as many people as possible, much hope has been placed in digital solutions. By way of illustration and in an exemplary manner, a growing number of MOOC (massive open online courses) are being created. Proponents of MOOC

point to the promise of increased flexibility in learning modalities while providing developers with a wide range of functionality.

However, several research studies have pointed out that the digital training revolution has not happened and that drop-out rates are very high (Moeglin, 2014; Verzat & all, 2016; Cisel, 2014). Firstly, universally accessible online courses make it difficult to implement a reliable business model and the idea of free tuition did not hold (Cisel, 2014). In other words, and according to Cisel, the model is economically unsustainable. Secondly, there is no political strategy to accompany the introduction of MOOC (Cisel, 2014). In particular, there has been a lack of strategic thinking on the issues of hybridisation of MOOC with “standard” academic curricula. Finally, the quality of digital devices themselves make this revolution unlikely (Cisel, 2014). The technologies used are still rustic and offering distance learning leads to all sorts of technical problems that are not easy to solve without real computer skills. Indeed, it has been underlined that training actors are often unprepared for the new digital devices. With the introduction of distance learning courses, or MOOC, the work of those involved in training is being transformed: they see their profession transformed by digital technology without this always having been anticipated (Boboc & Metzger, 2019). In order to encourage participation in MOOC, some authors have stressed the need to rethink the organization of work, currently often unable to provide the conditions for such participation (Subramanian & Zimmermann, 2017).

Research has highlighted that the digitalisation of training is a source of increased inequality. Digital training would only benefit people (Boboc, Metzger, 2019):

- with sufficient autonomy to organise their working and learning time
- who can rely on a support system and have the opportunity to work with at least one other learner. Meeting and getting to know other learners then makes it possible to seek social support in case of difficulty.
- who have an instrumental relationship with training, seeking above all knowledge that can be assimilated quickly and is directly useful, and only completing training that leads to recognised certification (opening the doors of promotion and monetary advantage).

In the case of platform workers, how can participation be promoted and how can training be used to reduce rather than increase inequalities?

Regarding the evaluation of a possible training offer, on the one hand, the workshops underlined that platform workers need training on how to use the platform (from the knowledge of basic and advanced functionalities and their evolutions, to those related to the regulation of the activity by the local or national authorities, including the tax regime and the resulting legal obligations). On the other hand, in Barcelona and Tallinn, platform workers said they didn't need skills training but rights and that work activities are upgraded by the platforms, i.e. at the structural level.

*“Are you going to train someone on labour right when they don't have them? How are you going to do a training on something when you know your rights are going to be violated. Rights first. The legislation exists. From there, we are delighted that there is training, the more training, the more dignified conditions.” (Extract from WP4 Workshop synthesis in Barcelona)*

In London, the training received from platforms were rare, not helpful and no skills were recognized in the remuneration practices and rules of the platforms. For the workers in Tallinn, skills cannot be acquired through training but are obtained through experience and by communicating with other hosts and drivers. The tendency then is to naturalise skills (including in the discourse and representations of the workers themselves, which reinforces

in turn their invisibilisation). In Lisbon, the workers need training to obtain a clearer relationship with the platform and for general knowledge about their field of work.

CEDEFOP defines three types of learning (CEDEFOP, 2014). *Formal* learning takes place in an organised and structured context such as an educational institution or in the workplace. Learning is explicitly designated as such and usually leads to validation and certification. *Informal* learning arises more from everyday activities related to work, family or leisure. It is not organised and structured. The learner does not realise that he or she is learning: the training is therefore unintentional. Finally, *non-formal* learning is embedded in planned activities that are not explicitly designated as learning activities.

How do platform workers acquire skills? During the workshop, most platform workers emphasized informal learning as the main channel through which they acquired and updated their skills. According to London's platform workers, they learn "on the job", i.e. by doing and while performing their activity through a trial-and-error process. In Tallinn, the term "training" was perceived as irrelevant. Workers were cynical when it comes to skills. They said:

*"Driving is a better substitute for drinking."* (Extract from WP4 Workshop synthesis in Tallinn)

For the most, the day-to-day of a platform courier does not require any special ability. A Deliveroo rider underlines that:

*"The greatest learning has been to subsist on so little money. Taking from a point A to a fucking B does not require any skill. I am neither an entrepreneur, nor a collaborative economy worker, nor nothing like that".* (Extract from WP4 Workshop synthesis in Barcelona)

In Lisbon, skills are viewed as acquired through personal experience and most of the time disconnected from any connection to a professional activity. An exception appears for London workers who stress learning through formal training.

For the platform workers, the main training themes necessary to enhance the recognition of both their personal skills and those necessary to perform their work are legal knowledge, market-functioning knowledge and how taxes work. In Tallinn, platform workers pointed out that they didn't need training but recognition of informally acquired skills.

Recognition of workers' skills involves acknowledging that skills are built over the life course of individuals on the one hand and, by their professional experiences on the other hand. Indeed, platform workers build their skills through these two channels and are actors in the construction of their careers and skills. Informal experiences are also a source of know-how. In this sense, platform workers can be considered as self-learners and as forming autonomously during and through different episodes of their lives.

Indeed, the platform workers are more interested in recognition than in certification. Platform workers say they need to be - and to feel – recognized in their work. The fact that they are only considered by the platforms as self-employed, and therefore neither independent nor employee, makes invisible the reality of platform work which is "real" work. Platform workers are hence in a so-called "grey zone" (Supiot, 2000) in which their remuneration is not a salary but a minimum remuneration (with little or no salary rights) corresponding to their development of the capital of the platform for which they make their work force available... For example, a platform worker says during the City training workshop on platform labour skills in Tallin :

*"Well, the weekly payment is my accreditation of skills".* (Extract from WP4 Workshop synthesis in Tallinn).

The assumption we can then make is that platform workers are less interested, at the moment, in certification (as long as certification does not lead to an automatic salary increase) than in recognition of their work as non-unqualified through a better remuneration. This observation is well illustrated by Portuguese platform workers for whom the primary need is money (i.e. higher retribution) and not certification.

On their side, Tallinn workers are critical about certification. For the platform workers, the creation of a certificate, which recognizes relevant skills, will create regulation. Regulations usually mean more restrictions on drivers. It is, for example, harder to get licenses. It was noted that drivers wishing to be regulated can already work for traditional taxi companies. Thus, according to the workers' understanding, certification means more regulation. Regulation is associated with coercion and the fact that it adds ways to punish workers. Indeed, for the platform workers, regulations will not be initiated by platform, unless it allows them to hide taxes and increase their benefits.

In Lisbon as well, the "lei da Uber" imposes a training course and a certification that adds what is seen as a burden to workers. For workers in London, one solution would be to introduce a certification built and recognized jointly by the platforms and local authorities. In Paris, the issue of transferability of rights and skills was raised when workers move from one company to another. Could certification provide an answer to this issue?

Training should not become a constraint for platform workers. The idea of training is to give platform workers more autonomy. The autonomy could become more important if the platform workers were trained on the issue of exploitation mechanisms used by platforms. It would be important, for example, to show them how the digital traces of workers are used by platforms and then monetized. Training that allows workers to understand the various mechanisms of exploitation of platforms would allow more autonomy for them. As an example, we will see at the end of the next section how workers, notably by understanding the mechanisms of platform exploitation, have the possibility to build alternative forms of platforms, such as the company "Take Eat Easy".

The results from the 7 City training workshops performed in the PLUS project illustrate, beside an enlarged process of co-definition of skills, the need to set out an extended concept of training. Therefore, a training path for platform economy needs to approach skills fostering the capability of learning through connecting, of doing through thinking, of acting together through awareness and commitment, of changing through awareness of actions. At this point, it seems possible to propose some characteristic elements of such foreseeable skills and possible forms of training that should improve:

- a) the perspective on social and political rights and duties. It should stress the complex and dynamic nature of political collectivity and the need to improve the capacity to extend citizens' rights and responsibilities. Efficient training should promote this skill and be able to exercise democratic control over global structures and processes embodied and vehiculated by platforms;
- b) global and urban interdependence. By cutting through and across frontiers, platforms are associated with both the de-territorialisation and re-territorialisation of socio-economic and political space. Since economic, social and political activities are increasingly 'stretched' across the globe, they become in a significant sense no longer primarily or solely organised according to a territorial principle. They may be rooted in a particular urban environment, but territorially disembedded. Under conditions of globalization, the global and the urban layers, as well as social, political and economic space is re-formed at the point that it is no longer necessarily coterminous with established legal or territorial boundaries. This skill seems necessary to be included in the training processes to explore the challenges and

- opportunities of platform work in an urbanized world characterised by globalization, and the increased significance of politics;
- c) cosmopolitanism and complementarity. This skill is particularly appropriate to be developed, as it allows platform workers to recognise that different political projects shape different advocacy of skills in a complementary way, and should develop the political literacy and skills of mediation suggested by global problems confronted with local practices and possible solutions;
  - d) a political and ethical proposal. Since the future is uncertain, training processes should accept flexibility of actors and an ongoing re-negotiation and diversification of skills. It is a political proposal that also implies, in this instance, hedging the individual skill portfolio and concentrating on highly transferable and shareable skills able to empower the collectivity;
  - e) a bet in favor of democracy and dialogue. Platform workers' indications give evidence of the need to relate the local to the global, to express solidarity with those excluded by platforms' opportunities, processes and flows, and reflect and act on more democratic alternatives that are more likely to encourage the development of dialogue. Platform workers can dialogue with the discourses of others (peers, coordinators, practitioners, activists, professionals) and so expand their own framework of meaning and increase the scope for mutual understanding. They can reason from the point of view of others, exercise dialogue, and reflect and act on those forms of governance that can resolve fairly transboundary issues and processes that create overlapping communities of fate.

These elements plea for reconsidering the central vision of training actors and to reassess their function in its entirety: the development of a person, who in its wholesomeness learns to be, to think, to feel and to act. The training approach needs to reclaim its global dimension, giving a sense to actions, to relationships, and taking responsibility for the creation of a more effective political meaning of skills enacting. If we want to attain this goal, the training system must be changed and move towards a critical approach based on shared understandings, through the use of co-constructed methodology, creating conversational and participative relationships, promoting educational spaces built around the working process.

Given the ongoing need to innovate skills definition, contents and processes, we encounter the issues of skill recognition and certification, although not explicitly in the top of the PLUS workers' requests. Despite this, these issues are linked to skills transferability, a crucial aspect in favour of (individual choice of) labour market mobility, and to the debate around possible ways and modes to certify skills. The platform-driven labour market is changing rapidly, and more individuals make career transitions more frequently. This implies that the certification and accreditation processes have become more important, and micro-credentials may present possible support to find a shared way. Credentials traditionally refer to formal education and training (university degrees, VET programmes, etc.), serving to prove that an individual has completed a certain programme with success. Differently, a micro-credential is a qualification providing evidence of learning outcomes acquired through a short, transparently-assessed course or module (European Commission, 2020; Cedefop, 2020). Micro-credentials, eventually in addition to other forms of credentials and validation of skills, are important for workers' mobility within or between sectors, as well as to different locations. Micro-credentials have some advantages that can be suitable for platform workers, insofar as they allow flexibility and space of co-construction of specific and "small" skills. Courses/programmes to attain micro-credentials in fact should be shorter, cheaper, and more specific than formal learning options. As a result, micro-credentials support more targeted and flexible training courses, and also open the way to different actors to co-construct short, punctual and targeted processes. These advantages could help overcome four important barriers for platform workers: lack of time, loss of income due to taking time off work to train, exclusion from training offers, and cost of the courses. Because micro-credential courses tend to be shorter, it should be easier to develop and provide courses to



address the most in-demand skills. However, it is relatively difficult, at the moment, to assess micro-credentials, or other skills certifications acquired outside formal education, training, and job experience. This is especially relevant for platform workers, who may make more frequent professional transitions, and usually cannot cite an employer as a reference. Despite this, micro-credentials can offer a fruitful *terrain* for testing solutions for training, since the programmes are less time-consuming and less rigid than formal certifications. In other words, people who require greater flexibility could especially benefit from this solution. In addition, micro-credentials can be a part of the measures targeting inclusion and participation in the urban realm. Due to their flexibility, they may be well-suited to facilitate learning and professional transitions at any working stage or step.

For example, a small-scale survey among workers in certain platform/s could be realised in a city in order to find shared skills need. This could then involve urban actors such as training institutions/university, workers' coordinators, unions, urban policy-makers, platform themselves, if willing, and experts to set up contents for brief courses that lead to micro-credentials in highly-demand subjects.

It must bring about greater flexibility in the time and place, establishing participation and more deep relationships in the roles and relationships between actors (workers/trainees, teachers, institutions, unions, companies/platforms, urban policy makers) making life for them more comprehensible and attainable when accepting the role of targets of the training processes. Another concrete possible practice enabling micro-credentials is offered by a tool named GigCV (<https://gig-cv.com/>), a digital certificate for platform workers tested by some platforms in the Netherlands in 2021. It offers the possibility to valorise transaction data operated by the single worker, and serves as valid proof of work experience through platforms that agree on recognising such certification.

In short, PLUS City training workshops suggest the need to transform the training process into a space of exchange, reflection, political elaboration and socialization; a projection that promotes knowledge as a collective construct and values the skills and experiences of all actors of the training community, and not as a mere individual strength. This implies the need to change the training system until the curriculum and the process itself becomes a learning and participatory "community" that virtually leaves room for the integration of workers/trainees, teachers, local governments, associations, in order to build a path for awareness.

In a world in which contemporary life and knowledge are ever-evolving and ever more complex, there is, in other words, an urgent need for a training mode open to citizenship dimensions, meant as a cross-cutting and interdisciplinary process that finds its way into existing subjects as well as in new interdisciplinary projects promoting learning through themes that are politically and socially relevant. Especially in platform work, diverse levels (offline and online) and identities (worker, activist, agent, community member, urban citizen) intersect on the individual and the collective levels.

In this light, citizenship training calls the VET system to be enriched more efficient in "normal" activity, to be rooted in local experiences, offering a wider understanding, and presenting relevant experiences from persons and communities while involving all the actors.

## **4.2 Issues for social protection systems**

Overall, it seemed that workers could indeed find more skills than they initially stated as being important for the work (mainly implicit skills), but the group did not consider the issue of skills as crucial for the improvement of their working situation. This was instead expected to happen through regulation of the platform economy (bogus self-employment) or local law (vehicle cap for ride-hailing), as well as through strategies of subverting the company strategies (opting out of the platform with customers). (Workshop Berlin)

In platform work in general, and despite important national differences in terms of employment status and conditions of employment, one of the main characteristics of the transformations carried out by platforms is the outsourcing of workers, and therefore the outsourcing of all the risks linked to the activities performed and realized.

This common trend is indeed common despite national differences:

- on the one hand, platforms have to deal with specific national rules and legal contexts, especially in the field of social protection, which is different from one country to another;
- on the other hand, how workers are employed can be read as a result of the neo-liberal process of building a workforce as self-entrepreneur, breaking away from the standard and dominant model built after the Second World War, consisting of a full-time job, a guaranteed salary covering increasingly extended periods off work and with a single employer for the entire duration of the professional career.

In this new configuration driven by platforms, workers own their labour force, but also the instruments and means essential to carry out their professional tasks and activities. With the global shutdown due to the pandemic of COVID-19 during 2020, platform workers, especially those working for home delivery platforms, became suddenly visible for all, and so did their precarious employment conditions and exposure to risks.

As self-entrepreneurs selling their workforce when they want and for as long as they want (according to the official discourse of the platforms), platform workers are “responsible” for their own social protection. In other words, they are “free” to cover these risks by using private forms of social protection, as their employment status gives them no or little access to social protection. The flexibility put forward is therefore deeply ambivalent:

- on the one hand, the possibility to choose when and whether to work makes platforms very attractive, at least at the beginning;
- on the other hand, in a context in which the relationship between capital and labour is inscribed in a framework in which the model of permanent and full-time employment contracts is less and less the norm, flexibility also presents itself as the absence of rights.

Indeed, social protection benefits and entitlements are more and more closely linked to job performance and awarded according to restrictive conditions of granting. While certain types of employment give access to social protection (and within employment, some offer more protection than others), the perimeter of social protection as a whole tends to be reduced and social protection associated with underemployment or non-employment situations is more and more a question of solidarity, conditioned and conditional on compliance with institutional injunctions within the framework of the so-called active labour market and social policies. In other words, social protection tends to be less a structuring object of the labour capital conflict and more a question of social policy and poverty reduction policies. Applied to platform work, it was pointed out that self-entrepreneurship was ultimately just individual management of underemployment. Being a self-entrepreneur can be associated with a form of unemployment regulation device or as a strategy to circumvent and avoid unemployment (Abdelnour, 2014).

*“Deliveroo I think knows that it's based on people being interchangeable and actually swapping. I mean I come and go, there's not a block of Deliveroo workers, there's a series of guys who do it for a period and then no more, at least until they find a better opportunity. So Deliveroo is actually based on the work of people who have no alternative”.*

In this sense, platform work operates as a vector of reconnection between employment (i.e. performance on the labour market), rights and entitlements to an income, and social benefits. Welfare systems have been constructed, especially after the Second World War and until the late '70s, by operating a progressive and ever deeper de-connection between employment and right/entitlement to the financial resource. Indeed, welfare systems have gradually taken

over more life stages and situations outside employment: pregnancy, retirement, family benefits/allowances, healthcare, etc. From the minimum essential to the simple reproduction of the workforce, wages have become the vector of extended social protection thanks to the pooling of risks. In this evolution, platforms operate, and impose, a leap back in time by making the salary only the counterpart of the development of capital during the time necessary for this development.

In this context, it is understandable that platforms do not appear and do not want to be considered as employers. Indeed, workers' rights, especially those linked to social protection, have been historically constructed in association with the identification of an employer whose figure appears during the late 19th century as a labour legal conquest (Didry, 2016). One of the major issues at stake linked to the social protection of platform workers is, therefore, the necessity- or not – to (still) conceive social protection (rights) with the figure of an employer. Platform workers' mobilisations (at least until 2020) generally claim to be recognised as employees to benefit from the rights attached to that employment status, while continuing to be able to benefit from autonomy.

Indeed, tension appears between this autonomy desire and the fear of precariousness that may accompany it. A distancing from social protection can be observed. Individual protection is then built in conjunction with the spouse's income, but also with personal savings or through social assistance (DREES-DARES Seminar, 2018). These practices raise questions about the individualisation of rights, the more extensive use of provident funds and the greater disconnection between social protection and professional activity (DREES-DARES Seminar, 2018).

By claiming most of the time a negotiated salary (and as far as possible predictable based on hourly standards), platform workers aspire to move away from the grey zone in which they find themselves between self-entrepreneurship and salaried employment. In other words, platforms are not to be considered anymore as neutral intermediaries between clients and service providers but as employers in all effects. Indeed, an Airbnb host noted that his income was totally variable:

*“During the busy months I could even get 2.000 euros. In other months I could get just 40 Euros.”* (WP2 Report - Air\_Bo)

During the Covid crisis, Airbnb hosts did not receive any compensation. A host testifies:

*«Air\_Bo\_M\_2: Q: As you didn't have a VAT identification number, you didn't get any benefits during Covid?*

*A: Nothing. Zero. Talking to someone with a VAT number they told me: "well that's right because I have taken the burden of business". Instead, in my opinion, any place that paid the tourist tax (VAT number or not) had to have something ».*

Through this testimony we see that tax issues are also an important point.

For the Deliveroo drivers in Bologna, full health insurance is a necessity. Only some injuries had been taken care of and reimbursed and only if caused during the working time. Private insurance adopted by the company is contested openly because of the lack of clearness on the procedures and coverage' extension. They offer low rewards and have gaps.

*Del\_Bo\_M\_2: “A year and a half ago supposed private insurance was introduced, which is a bit like the briefcase in Pulp Fiction, everyone has seen it but no one knows what's in it except for a few unfortunate colleagues who had an accident and asked for clarification [...]. In some cases it has not been possible to take advantage of it despite the damage suffered,*

*in other cases where there have been days of prognosis in hospital it has happened that some have received the insurance amount but with a significant loss of earnings. The rewards are there but they are highly inadequate in terms of amount and timing”.*

Labour law should be adapted to the “digital revolution” and the major transformations that it accelerates, crystallizes or induces. To identify how social protection may be improved and adapted to these changes, it is necessary to study the economic dependence of platform workers (Bernier & Sylvie, 2018). In the context of the platform economy, we must also add the strengthening of “economically dependent independent workers” and the associated protection issues (Antonmattei & Sciberras, 2008). In the latter case, the lack of coverage for loss of income is essential since workers depend on a single principle and there is no recourse in the event of unfair dismissal, e.g., the deletion of an account following a poor customer rating (DREES-DARES Seminar, 2018).

The “digital revolution” has amplified and accelerated the movement of blurring and cross-fertilization between the “traditional” legal and economic statuses of self-employed workers on the one hand and salaried workers (employees) on the other already described by Supiot in the late ‘90s. This “grey zone”, as first defined by Supiot (Supiot, 2000), has spread with platform economy to the point where lawless zones have multiplied for platform workers (Bureau, Corsani, Giraud & Rey, 2019). Digital-related issues, particularly concerning the decline of “traditional wage employment”, place legal and policy frameworks in front of important challenges in order to (better) recognize platform work and platform workers; challenges that (again) raise the question of the (re-)distribution of value, especially in a context of tax optimisation by digital platforms (Palier, 2019). Several possibilities can be identified in this direction.

Firstly, while categories (self-employed workers and salaried workers) are still necessary, it is possible to extend existing laws and rights to these “new” forms of work and employment. For example, the right to unemployment insurance could be extended to platform workers. Furthermore, the social protection of the self-employed (when it exists) could be strengthened (Bargain, 2018). By considering the status of the economically dependent worker, it is possible to reflect on a third way for social protection. Workers’ social protection will be either digital or non-existent (Palier, 2019)

Secondly, the relevance of these categories can be questioned. Without categories (i.e., by reasoning based on the creation of a single employment status and associated tax regime), we can imagine a global social protection regime for all types of workers and activities. The implementation of a universal basic income goes in that direction (Palier, 2019; Stiegler & Kyrou, 2016) since it is (should be) accompanied by a set of (minimum) rights for all workers (including platform workers) at a global scale (Rodríguez Fernández, “Rights for digital platform workers”).

Thirdly, the efforts spent on regulating platforms could be spent on building public platforms (Srnicek, 2017). The ownership and control of these public platforms would be in the hands of the people (Srnicek, 2017). This would imply redirecting substantial state resources to the acquisition of the technologies necessary to maintain these public platforms (Srnicek, 2017). It would be possible to design post-capitalist platforms that would put their data at the service of a better redistribution of resources and greater participation in democratic life (Srnicek, 2017).

An interesting focus can also be made on new forms of cooperation allowing access to social protection, such as cooperatives of activity and employment. In the latter, in exchange for a contribution, the worker becomes an ‘employee-entrepreneur’, guaranteeing him or her access to the social protection of employees (DREES-DARES Seminar, 2018). An example

can be the company 'Take Eat Easy', which offered meal delivery by bicycle, but has since closed down. When the company went bankrupt, self-employed couriers in France were not paid (De Nanteuil & Zune, 2016). In Belgium, couriers were able to be paid thanks to solidarity systems between cooperators (De Nanteuil & Zune, 2016).

### 4.3. Political value of skills for platform workers

The first two sub-sections of this concluding section have been dedicated to training and social protection systems issues linked to skills on the platform economy. This third and last sub-section deals with conceptual issues and their political implications. Indeed, to tackle and answer the issues raised so far, it will put forward the need to conceive skills in an innovative mode.

From the PLUS deliverables described in section 2, as well as those in the 7 City training workshops and during the Community of practice workshop within WP4, there appears the need to open up a reflection on a fruitful and concrete path to define skills for a platform economy. This is so far an unexplored argument, because, as already evidenced, platform workers involved in the PLUS project are wrongly considered to be unskilled, and platform work is wrongly considered as needing no skills. What is additionally at stake, and springs up from this report, is that platforms open up an uncharted political “space” to be built and enacted through new ways of interaction.

It is necessary to go through a succinct overview of the 7 City training workshops results (presented at a glance in the following table) to understand how the intersection of platform-oriented and “traditional” drivers must be mobilized towards a productive action (moving towards the digital citizenship above depicted). The common features that emerged in the 7 workshops make clear the need to trigger a participatory political process involving all actors to collectively innovate the product/outcome (skills), since it implies a collective new way of defining the product/outcome.

	Common features
<b>Skills definitions</b>	<ul style="list-style-type: none"> <li>• «Human skills» / customer relation related skills, including language</li> <li>• «Technological skills» / knowing how to handle/navigate a smartphone and how algorithms influence the work organization</li> <li>• Employability</li> <li>• Communication and language skills</li> <li>• Time-planning</li> <li>• Accounting</li> <li>• “Acting skills”</li> </ul>
<b>Evaluation of a possible training offer</b>	<ul style="list-style-type: none"> <li>• How to use platforms to understand their functioning</li> <li>• Rights awareness or upgrading of activities at the structural level</li> <li>• Contactless delivery, but it requires time (cleaning, change of equipment) and material</li> <li>• Foster collaboration and co-operativism</li> <li>• Tax issues</li> <li>• Administrative management of ads (for example for Airbnb)</li> </ul>
<b>Actors involved the demand/offer of skills</b>	<ul style="list-style-type: none"> <li>• Players influencing the demand of skills = customers + algorithmic management + companies + legislators (urban as well other levels)</li> <li>• Players influencing the offer of skills: education system + labour market</li> <li>• «macro context» and «micro context»</li> </ul>
<b>Actors that could improve such skills</b>	<ul style="list-style-type: none"> <li>• Aware peers</li> <li>• Unions</li> <li>• Platform themselves</li> <li>• Specific migrant community associations</li> </ul>

	<ul style="list-style-type: none"> <li>• Education institutions</li> </ul>
<b>Actual ways to recognize skills</b>	<ul style="list-style-type: none"> <li>• Initiatives/tools such as «gigcv» (<a href="https://gig-cv.com/">https://gig-cv.com/</a>)</li> <li>• Indications from City training workshops push to find ways to open up debates in all urban settings</li> </ul>
<b>Way of acquisition</b>	<ul style="list-style-type: none"> <li>• On the job</li> <li>• Informal</li> <li>• Formal</li> <li>• Shared agreement</li> <li>• Bottom-up performative claims</li> </ul>
<b>Main training-themes necessary to recognition</b>	<ul style="list-style-type: none"> <li>• Customer-service skills</li> <li>• Driving skills</li> <li>• Cleaning skills</li> <li>• Hosting skills</li> <li>• Legal knowledge</li> <li>• Language</li> <li>• Cooperativism</li> <li>• Keeping track of training (formal, informal or non-formal)</li> <li>• Reputation systems are blurring the boundaries between skills</li> </ul>
<b>Possible ways of certification</b>	<ul style="list-style-type: none"> <li>• Before certification, importance of skills' recognition (including in terms of salary)</li> <li>• Transfer of skills/experience (e.g. number of rides or number of successful hosting) from one platform to another</li> <li>• Personal portfolio to be valued</li> </ul>
<b>Local possible challenge and solutions</b>	<ul style="list-style-type: none"> <li>• In general, as seen above, little need for skill development or recognition was voiced; instead, regulation and organizing were highlighted as a solution.</li> <li>• Actively involving workers in the design of training programmes. Important obstacles limiting recourse to training are motivation, time, and funding. Motivating a huge number of platform workers to begin re- and up-skilling is not banal, and in fact, may be a great challenge to kickstart urban good practices.</li> </ul>

This kind of picture resulting from the PLUS outcomes (oriented to pave the way for a flexibilization of the skills framework, a broadening of the actors involved and a redefinition of skills) is in line with the European Skills, Competences, Qualifications and Occupations system (ESCO, <https://ec.europa.eu/esco/portal/home>). This coherence stands particularly in two directions: a) in the aim of reusability of the skills to be co-defined: “ESCO distinguishes four levels of skill reusability: *Transversal knowledge, skills and competences are relevant to a broad range of occupations and sectors; Cross-sector knowledge, skills and competences are relevant to occupations across several economic sectors; Sector-specific knowledge, skills and competences are specific to one sector, but are relevant for more than one occupation within that sector; Occupation-specific knowledge, skills and competences are usually applied only within one occupation or specialism.*” (EC-ESCO Handbook, 2019: 20); b) in a political aim, through the promotion of the transparency of the process and the use of data: “*Fostering participation of citizens in political and social life and increasing the transparency of government.*” (Ibid.: 34).

With regard to the latter aim, in exploring the way to understand how skills represent both a political space and a tool for enabling such political space, it is important to acknowledge that platforms offer opportunities to disrupt relational structures. Digital technologies and platforms have contributed to disrupting concepts of the nation state-based cultural field and citizen habitus or ways of being, offering instead opportunities for shaping the collective habitus through new interactional spaces (Vivienne et al., 2016). Platforms' immaterial and

material space is discursive (Massey, 2005). The way in which it is defined and thought of shapes the possibilities of that space. Initially, discursive constructions of platform spaces were immaterial, disembodied spaces distinct from materially-based ones (Sujon, 2007). These views were shaped through language such as 'cyberspace', 'virtual space', and 'online' and 'offline'. Yet such a dualistic view undermines the fact that space is interrelational, therefore political, and platform spaces are created through interactions and spaces-between individuals (McCoster et al., 2016). For example, considering from the above table the actors involved and the ones that could improve skills, as individuals interact through platforms they learn new ways of acting and producing effects by asking and creating a different political terrain where to dispute, debate, claim and produce effects. This means becoming political actors in using platforms themselves to fluidly engage in practices that reflect their way of being (or *habitus*), in multiple spaces (Loader et al., 2014; Robertson, 2009). Platform spaces, therefore, are not fixed, virtual realms contained as offline entities separate from the "real" world. Rather, they are at the same time political spaces to enable cooperation and co-construction, while fostering a technical and digital literacy necessary to avoid becoming a casualty of technological disruption, but instead partaking in and co-directing the shift that is taking place (Hanakata and Bignami, 2021). Platform spaces, in effect, are created and evolve through interrelations between individuals and mediated through digital tools. The political construction of platform spaces is, therefore, intimately intertwined with a discursive path that not only shapes the understanding and use of platform opportunities, but also serves to construct users' skills of these platforms spaces. To corroborate this aspect there are shared results from city training workshops, highlighting that:

- technological skills that some workers asked for are related to having the capability to access the available data that platforms hold on them. They wanted to learn how to access this data and ensure that platforms process this data with fairness. Also, a better understanding of how the working of the platforms' algorithm (and not about how algorithms are technically constructed) always leaves them in a weak position toward platform management;
- time planning skills were not a type of skill that workers asked specific training for. They seem to be capable of doing effective time planning, considering their professional but also household needs. However, they raised a related issue: the fact that platforms are constantly changing the rates for different time slots hamper their time planning. So, for them it was not a question of acquiring "new" skill in time planning, rather of building the capacity to demand platforms to have fixed and clear rates for different time slots to be able to make effective time planning;
- often participants mentioned that they have acquired advanced skills in navigation during their work for platforms like Deliveroo and Uber. However, these skills are not recognized by the platforms nor are transferable. Definition, recognition and transferability are the main issues here;
- several participants indicated that they do not understand how the algorithm works. Operative skills that will enable workers to understand how platform algorithms work will be very useful;
- social and communication skills are mentioned in many cities by several participants from Uber, Deliveroo and Airbnb platforms. Most participants said that they have developed advanced social and communication skills at work. The problem here was that these skills were not recognized and non-transferable from one platform to another;
- some participants mentioned that they did not know where to find support when discriminated by platforms. These were mostly workers who knew very little about labour union organizing and how unions can support them in their claims or how to work collectively with other workers to share experiences, promote demands through legal action, protest, strikes and other forms of unionism;

- health and safety, including psychological health, is an argument handled: there was little discussion in general, of issues related to health and safety at work, but there were several indications that workers are left unprotected especially with regards to accidents and injuries at work;
- employability skills are crucial for platform workers because many of them do not know how to transition to other sectors after working in the platform economy, including how to take advantage of their experience and transfer their skills acquired in this field;
- with few exceptions, most workers lacked clear understanding of how data on their work are collected and processed, and are lacking the capacity to demand platforms not to use their personal data in discriminatory or unauthorized ways. This is across platforms and sectors of employment;
- some Uber, Deliveroo and many Airbnb workers in many cities stated that they received no support and relied mostly on Facebook and Whatsapp groups to collect information about problems they faced. This shows that they are unaware of how activism can support the definition and acquisition of skills, whether at the individual level (legal, and advise) or at the collective level (aggregate actions, demands, social network, problem-solving). Skills in how to organize and get support from labour union structures might also prove to be critical. This concept also concerns developing skills in platform cooperativism. This issue appears to play a key role in reaching workers and explaining their working rights, how to act collectively, how to foster networking, etc.

The political value of co-constructing skills is therefore valuable in platform fields, allowing individuals to influence, critically use and understand such environment easily, and use those skills to gain capital in other forms, such as political, economic or social capital (Ignatow & Robinson, 2017). A fruitful political co-construction of skills, as shown in the City workshop and the above-presented table, requires being present in platform online and offline spaces. To reach the desired effects, this presence implies the habitus and capitals to participate and contribute to communities of shared interests whilst fluidly and critically navigating discursive contexts. Such a need to build a process of co-construction of skills fostering and improving participation is fully tuned to the results from the “Study to support the impact assessment of an EU initiative to improve the working conditions in platform work”. This report acknowledges that “*Skills level and task complexity is therefore (...) important dimension involved in classifying platform work.*” (European Commission, 2021: 35). The issue of skills update and improvement is therefore nodal, and the indications are to pursue a policy action which is flexible and able to include all key actors, leaning on three main policy areas: misclassification of employment status; fairness and transparency of algorithmic management practices; enforcement, transparency and traceability of platform work, including in cross-border situations. (European Commission, 2021).

The complexity of people’s lived experiences encompasses multiple ways of embodying being workers in a platform environment, such as being active and engaged, present, politically active, aware of roles and of the social norms for their communities and spaces of belonging. The use of platform-mediated spaces for digital citizenship practices (as mentioned in section 3.3) is therefore shaped by political constructions that shape digitally-mediated spaces, as well as concepts of citizenship, in terms of particular ways of being and doing. Such a focus on the political value of skills can incorporate the interactions between platform workers that shape both individual and collective *habitus* and create constructive political and social spaces of practices. Incorporating understandings of space as politically constructed contributes to understanding platforms as digitally-mediated spaces of possibilities shaped by shared socio-political understandings.



# Annexes

## Annex 1

### City training workshops synthesis

	Common features	Specific features (especially linked to local/national legislative/regulatory contexts)
<b>Skills definitions</b>	<ul style="list-style-type: none"> <li>• « Human skills » / customer relation related skills (soft skills): Bologna = hospitality ; Lisbon = customer relationship or relational strategy (in the case of Airbnb) ; Tallinn = “everyday life skills like managing emotion, being polite or look like your customer” ; Barcelona = emotional labour → general/common skills or hidden ; Paris = main skills are related to cycling (hard skills) but also hidden customer relational skills (soft skills) that nourish the professionalism of the riders -&gt; Berlin: some riders have learned interaction skills in former jobs or through training</li> <li>• « Technological skills » / knowing how to handle/navigate a smartphone (“important precondition”), relationship with the app or the algorithm → in the case of London, several workers do not understand how the algorithm works -&gt; algorithmic management is precious (Paris, AirBnb)</li> <li>• Communication and</li> </ul>	<ul style="list-style-type: none"> <li>• Barcelona: no entrepreneurial skills but precarious skills / Hidden skills = learn to engage in collective movements (generate alternative for Deliveroo and organize them self for Airbnb)</li> <li>• Tallinn : ability to keep yourself healthy → only city to talk about aspects of health (Drivers)</li> <li>• Bologna : “speed” skills → clicking capability ; go faster within the city ; ability to do as fast as possible the maximum number of orders</li> <li>• Lisbon : underlines Platform dependency and deprofessionalization vs Lei da Uber</li> <li>• London : employability skills crucial → how to transition to other sectors and to take advantage of their experience</li> <li>• London : safety issue, especially road accidents</li> <li>• Deliveroo + Uber : knowing the map of the city → London : skills not recognized by the platform nor transferable → Paris : cycling as main skills</li> <li>• Airbnb : technical operative → managing of workers and partners (cleaners, check-</li> </ul>

	<p>language skills -&gt; Berlin: knowing German/English (as many clients are tourists) was a plus though not necessary</p> <ul style="list-style-type: none"> <li>• Time-planning : daily work organization, waiting skills, availability → in the case of London, demanding Platforms to have fixed rates for different time slots and not question of acquiring new skills</li> <li>• “acting skills”: Helping worker emphasized that it was important to make customer feel as if hard work was being accomplished, even if not much work was left anymore. Airbnb hosts had to create a feeling of casuality and making guest feel ‘at home’</li> </ul>	<p>in/check-out etc.) ; Paris: most important skills = preparation of the accommodation (hard skills) + management of fiscality as hidden skill</p> <ul style="list-style-type: none"> <li>• Paris: Deliveroo rider: "Qualification is about know-how, competence is about knowing how to be." // expert: "The point is that the reputation in platforms process blurs the lines between professional skills and qualifications." // another expert: "Compared to Covid, it is more about adaptive strategies for surviving and adapting to platforms, which raises more questions about the power of platforms than about skills. The most important point is that we talk more about the skills of the platforms than about the skills of the workers: their ability to mobilise free work, in particular."</li> <li>• Berlin: The lack of language knowledge was an issue for many workers<sup>5</sup> and also a reason why they could not get jobs outside of platform work.</li> <li>• Uber: in Berlin, a P-Schein was the document Uber drivers had to present in order to drive (plus their drivers licence); the test for it included a eyesight and concentration test</li> <li>•</li> </ul>
<b>Evaluation of a possible</b>	<ul style="list-style-type: none"> <li>• How to use Plateform</li> <li>• Barcelona + Tallinn : do</li> </ul>	<ul style="list-style-type: none"> <li>• Barcelona : rights first</li> <li>• Tallinn : skills = those that</li> </ul>

<sup>5</sup> This refers to other workers and colleagues, not to the participants themselves. Due to the nature of the format (the workshop was held in German), all participants could understand and speak German. This was not representative for the workforce in Berlin however. During the field research, interviews in Berlin were held in Spanish, Turkish and Italian (as well as German and English).

<p><b>training offer</b></p>	<p>not need skills training but rights or upgrading of activities at the structural level</p> <p>→ London : training they received from platforms were rare and not helpful + no skills recognition</p> <p>-&gt; Paris: Contactless delivery but it requires time (cleaning, change of equipment) and material. Riders cannot take this time. People work the way they are paid: precariously. Barrier measures are therefore poorly applied.</p>	<p>people obtain when growing up → naturalization of skills + by communicating with other hosts and drivers</p> <ul style="list-style-type: none"> <li>• Lisbon : clearer relationship with the platform + need for a general knowledge about their field of work</li> <li>• Bologna : pricing, English, rights, rescue</li> <li>• Airbnb, Paris : regulations and tax issues</li> <li>• Berlin: <ul style="list-style-type: none"> <li>○ Helping: training for worker security and healthiness (e.g. keep a safe back and how to deal with toxic cleaning material, legal issues (tax filing))</li> <li>○ Airbnb: training on legal issues (regulation related)</li> <li>○ Uber: driving safety measures</li> </ul> </li> </ul>
<p><b>Actors involved the demand/offer of skills</b></p>	<ul style="list-style-type: none"> <li>• Tallinn + Bologna + Paris : players influencing the demand of skills = customers</li> <li>• Lisbon + Paris : players influencing the demand of skills = algorithmic management</li> <li>• Barcelona + Lisbon = « macro context » / Tallinn + Bologna = « micro context »</li> <li>• Berlin : demand (companies + legislators, municipal or federal) // offer (education system + labour market)</li> </ul>	<ul style="list-style-type: none"> <li>• Lisbon : actors influencing skills = algorithmic management of the platform (unidirectionality of the relationship + market logic imposed) + state (regulatory problems, generation of administrative gaps, weak capacity for taxation) + non-nationality of the platforms</li> <li>• Barcelona : actors influencing skills = platform companies, socio-economic context, public institutions, private schools, unions, lawyers, assurances</li> <li>• Tallinn : Uber + Airbnb don't offer trainings – more pushing and sanctioning / Uber = fixes the price vs Airbnb = hosts regulate the price</li> </ul>

		<p>→ Platforms are neutral</p> <ul style="list-style-type: none"> <li>• London : Local Enterprise Partnerships, Institute for Apprenticeships and Technical Education, Union Learning Fund</li> <li>• Paris : players influencing the offer of skills for Deliveroo and Uber = the State</li> </ul>
<p><b>Actors that could improve such skills</b></p>	<ul style="list-style-type: none"> <li>• Tallinn + Lisbon + Bologna + London = aware peers</li> <li>• Barcelona + Bologna + London+ Paris = unions</li> <li>• Tallinn + Bologna + Berlin : Platform themselves</li> <li>• Berlin: cooperation with specific migrant community associations</li> </ul>	<ul style="list-style-type: none"> <li>• Lisbon = state to recognize the character of economic dependence between worker and platforms</li> <li>• Paris = trade unions + the State (effects of the Grandguillaume law have to be measured since it introduced a common core section in the exam to obtain a licence for taxi and VTC)</li> </ul>
<p><b>Actual ways to recognize skills</b></p>		<ul style="list-style-type: none"> <li>• Tallinn : Uber, Yandex, Taxify, bolt = training for beginners already exist</li> <li>• Paris: Vocational qualification remains a real subject of debate. For the platforms, since article 43 of the LOM law was adopted and the decrees arrived, their obligations in terms of vocational training are going to be considerably increased since they are going to have to top up the Professional Training Account (CPF). As one expert underlined: “they are expected at the turning point because of their discourse on professional and social inclusion, particularly among workers from disadvantaged neighbourhoods, and this obligation linked to the CPF is going to be a crash test for the platforms: the financial masses at stake</li> </ul>

		will no longer be the same at all".
<b>Way of acquisition</b>	<ul style="list-style-type: none"> <li>• On the job (London + Berlin)</li> <li>• Informal (Bologna + Barcelona + Lisbon + Paris + Berlin : training course compulsory and expensive)</li> <li>• Formal (Berlin)</li> </ul>	<ul style="list-style-type: none"> <li>• Tallinn : the term "training" was perceived as irrelevant</li> <li>• Bologna : social groups and online courses → disappearance of human resources managers for automatized informations</li> <li>• Lisbon : personal experience</li> <li>• London + Berlin : formal trainings</li> </ul>
<b>Main training-themes necessary to recognition</b>	<ul style="list-style-type: none"> <li>• customer-service skills (Berlin)</li> <li>• driving skills (Berlin)</li> <li>• cleaning skills (Berlin)</li> <li>• hosting skills (Berlin)</li> <li>• Legal knowledge (Bologna + Barcelona)</li> <li>• Reputation systems are blurring the boundaries between skills (Paris)</li> </ul>	<ul style="list-style-type: none"> <li>• Tallinn : no special training needed – admitting that skills for efficient cooperation + taxes could be missing</li> <li>• Bologna : market</li> <li>• Paris : needs a clearer statutory framework</li> </ul>
<b>Possible ways of certification</b>	<ul style="list-style-type: none"> <li>• Before certification, recognition</li> <li>• Transferring of skills/experience (e.g. number of rides or successful hostings) from one platform to another</li> </ul>	<ul style="list-style-type: none"> <li>• Tallinn : critical about certification + regulation (provides additional ways to punish platform workers) → need = money</li> <li>• Bologna : Platform skills should be recognized</li> <li>• Barcelona : coaching, training, contract embedding</li> <li>• Lisbon : Airbnb = no certification mechanisms / Uber = lei da Uber imposes a training course and a certificate</li> <li>• London : Certification by Platforms and Local Authorities</li> <li>• Paris : need for collective agreements + issue of transferability of rights when you move from one company to another</li> </ul>
<b>Local possible challenge and</b>	- Little need for skill development or recognition was voiced;	<ul style="list-style-type: none"> <li>• Tallinn : unclear tax environment + diversity of</li> </ul>

<p><b>solutions</b></p>	<p>instead regulation and organizing was highlighted as a solution</p>	<p>interests prevents teaming up to negotiate the changes</p> <ul style="list-style-type: none"> <li>• Barcelona : Platform cooperatives and union play a key role in the explanation of rights + specific case of Airbnb with Veins &amp; Anfitriones</li> <li>• Lisbon : Municipality receives money from Airbnb for tourism fees / AMT receives money from Uber from the billing of the sector → need registration of short term accommodation + licensing of long-term accommodation + Uber contingent</li> <li>• London : fear of certified skills for the license that Uber drivers get from the Transport for London + no more an entry point to the labour market for migrants</li> <li>• Paris : Airbnb -&gt; need to get a registration number from the Paris City Hall office to limit the proliferation of short-term rentals Deliveroo -&gt; setting up of local and national cooperatives -&gt; Reputation systems are blurring the boundaries between skills</li> <li>• Berlin: "if skills can improve my safety and standing as a worker, that is good, but if it is oriented mainly to please customers better, I am not interested in it."</li> </ul>
<p><b>Tips and suggestion on creating a network of reference points</b></p>	<ul style="list-style-type: none"> <li>• Barcelona + Lisbon : network already exists but not formalized or coordinated</li> <li>• Berlin: cooperation with specific migrant communities for the</li> </ul>	<ul style="list-style-type: none"> <li>• Tallinn : More information about taxes optimization + knowledge of applying rules (international Platforms)</li> <li>• Bologna : Connecting people (family, platforms, colleagues, FN groups,</li> </ul>

	respective platforms	<p>union) through informal relationships</p> <ul style="list-style-type: none"><li>• Barcelona : network already exists but not formalized</li><li>• Lisbon : main mobilization factor = income</li><li>• London : Training should involve paid time</li><li>• Berlin: the necessity for improving skills and the creation of such a network would need to be more clear to workers + cooperation with specific migrant communities for the respective platforms (Turkish/Arab community for Uber, Latin American community for Helpling)</li></ul>
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## Annex 2

### **City training workshop on platform workers' skill (WP4)**

#### **General guidelines**

##### What is a City training workshop

In each city is implemented a training workshop, supported and organized by the local coordinator, in collaboration with SUPSI. This workshop is threefold:

1. With regard to the “skills” question: define and stress, in a co-construction approach, the specific features of each city in terms of skills implementation and requirements for platform work. The workshop’s main aim is therefore to map and analyze the main problems (and solutions), opportunities and needs of platform workers, particularly in relation to skills. Starting from a proposal of a first definition of skill(s), the workshop will then focus on the description of the work performed by platform workers in order to identify the main skills implemented and required (both “basic” and more hidden, including in their one eyes). Therefore we want to propose a definition of skill, then focus what the workers perform during their work and define together the main skills that they enable and run during their activity. In this way will be possible to define on one hand all the basic and common skills required, on other hand to elaborate “hidden” but important skills that they need to have or they already carry out (with no complete awareness or cognition). Then we want to figure out actors, actions, proposals in order to support platform workers in recognizing and having these skills recognized;
2. With regard to the overall project: disseminate and contribute to prove the project efficiency in improving platform workers’ awareness of their working conditions and organization, including facilitation/multiplication of research activities;
3. With regard to the MOOC: this workshop is also a source of didactical material for the MOOC that will be set up within the PLUS project. For this purpose, short videos will be realized with workers explaining briefly their conception of platform work in terms of strength, weaknesses, opportunities and threats.

##### Skill: meaning in the workshop context

In the Cambridge dictionary the term skill is defined as: “The ability to use one's knowledge effectively and readily in execution or performance” and “A learned power of doing something competently: a developed aptitude or ability”.

The literature on definition and analysis of the concept of skill (as well as for competence, knowledge and attitude) is vast. But discussion around this concept tends to focus only on its technical/professional dimensions, acting skills and the knowledge associated with the techniques of the work process, developed via training and/or experience.

In the framework of this project, and within the workshop, we aim at enlarging this definition.

##### Participants

The local coordinator (1); a group of platform workers/workers coordinators (such as unionists or workers’ organizers) (4-6); local field experts (1-2).

Additional and/or different stakeholders in line with each city contexts are also possible.

A total group of min 6 - max 9 attendants has to be formed in each city.



### Learning outcomes of the City training workshop

At the end of the workshop the learners will improve their:

- awareness of platform working conditions and issues at stake: by sharing problem solving experiences, tips and indications, accessing useful information;
- capability to manage “socio-professional” dynamics and evolutions: by developing and maintaining a community approach; strengthening the ways in which welfare and social security can be improved;
- capacity of analysis of events related to platform work;
- ability to network, mutual understanding and peer learning by identifying appropriate persons/services according to specific city conditions;
- ability to be a potential reference point for platform workers in the city.

### Management and facilitation

The City training workshop will be conducted jointly by the local coordinator (given the importance of local language) and one researcher from SUPSI if needed. The role of the local coordinator is crucial, since he has to bring the group together and motivate participants, including beyond the workshop.

The SUPSI team is available to support and facilitate the City training workshop by travelling to each city in advance, one or two days before the planned event, if needed and useful.

### **Method of delivery**

The City training workshop should last between 90 and 120 min and rely on the following structure and methodology.

Before the workshop: the local coordinator will deliver to the workshop participants a brief document set up by SUPSI presenting the topics and themes to be discussed the following day.

### Workshop timeline

- 20 min – introduction and presentations of participants; description of the workshop’s aims, including what we mean for skill, and instructions
- 60 min – 3 successive discussions in mini-workshops (20 min each) on 3 themes:
  - 1. skills identification and co-definition;
  - 2. identification of actors at the city level that have implications or links with skills
  - 3. benefits and limits in the process of improving and recognizing platform work skills
- 20 min – final agreement and sum up of the workshop outcomes. Reflection upon skills, actors, problems and possible support

All participants should contribute to the workshop and the discussion; the local coordinator and SUPSI researcher will coordinate the process by fuelling the discussion with specific questions and topics (ref. to grid and the short document spread the day before).

- At the end of the workshop there will be a video shooting to one or two participants. Available workers will be recorded in short videos (one minutes each) answering to this question: what are the advantages and disadvantages of platform labour? It is important to explain to workers that these videos will be used for an Online course MOOC, as mentioned above.

Specific technical requirements for the shooting of the videos and legal forms to be compiled by workers will be sent in advance.

## Overview and details of the City training workshop on skills

Objectives	Contents	Methodologies	Tools
<p>Socialize the group, create the conditions for peer learning and exchange</p> <p>Introduce the workshop method (thematic mini-workshops), by experiencing its potentialities treating a concrete case study</p> <p>Briefly introduce the concept of skill and its link with their work</p> <p>Realize the initial evaluation (ex-ante assessment) of skills of the participants (prior learning, representations of the learning object, clear and hidden skills)</p>	<p>20 min – introduction and presentations of participants; description of the workshop’s aims, including what we mean for skill, and instructions</p> <p>Details: brief introduction; hints of what we mean and clear the meaning of skill; explanation of what we aim to reach at the end and their possible benefit; each participant introduces the person next to him</p> <p>60 min – 3 successive discussions in mini-workshops (20 min each) on 3 themes:</p> <ul style="list-style-type: none"> <li>○ 1. skills identification and co-definition;</li> <li>○ 2. identification of actors at the city level that have implications or links with skills</li> <li>○ 3. benefits and limits in the process of improving and recognizing platform work skills</li> </ul> <p>Details: the workshops are semi-structured and fueled by specific inputs and examples (2-3 specific questions), but some hints and input on skills and implication on work might be elaborated.</p> <p>The reflection includes framing the skill in the participants’ daily work process; definition of skill by reflecting upon their activities; understanding self-consistent, general, specific and hidden skills, ways of improving and defining, usefulness to improve; necessity to spread awareness in other workers, actions possible, etc.</p> <p>20 min – final agreement and sum-up of the workshop outcomes. Reflection upon skills, actors, problems and possible follow-up support, such as keeping updated through a network</p> <p>Details: agreement on key, work specific, hidden, underestimated, individual and collective skills; actors in the city that have implications or links with skills; problems and support requests and proposals,</p>	<p>Workshop structured in 3 thematic “mini-workshops”.</p> <p>Each mini workshop is structured in a discussion on min 2 – max 3 specific topics, by using flip chart and post-it technique</p>	<p>Flip-chart (to resume and write keywords)</p> <p>Post-it (to collect all participants specific contributions in terms of specific statements, keywords, needs, etc.)</p> <p>Beamer and PC (for introduction and eventual sharing of documents)</p> <p>Camera video (to shoot the final video)</p>

	<p>possible commitments/personal engagements/role in perspective. If time allows, possible use of Swot (strengthen, weakness, opportunity, threats) approach. This last sum-up enables to share a vision on learning outcomes useful for participants; inform about perspective in the city; feedback and collect participants' evaluation.</p>		
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## References

- Abdelnour S. (2014). L'auto-entrepreneur : une utopie libérale dans la société salariale ? *Lien social et Politiques*, 72, 151–165.
- Abdelnour S. & Bernard S. (2019). Quelles résistances collectives face au capitalisme de plateforme ?, in *Les nouveaux travailleurs des applis*, Paris: Presses Universitaires de France, 62-74.
- Aguilera T., Artioli F. & Colomb C. (2019). Explaining the diversity of policy responses to platform-mediated short-term rentals in European cities: A comparison of Barcelona, Paris and Milan. *Economy and Space*, 1-24.
- Aloisi A. (2016). Commoditized Workers: Case Study Research on Labor Law Issues arising from a Set of "On-Demand/Gig Economy" Platforms. *Comparative Labor Law & Policy Journal*, 37(3), 653-690.
- Altenried M. & all. (2021). *D2.3 Final Report on impact of technologies on workers and labour process in the platform economy*. Platform Labour in Urban Spaces.
- Antonmattei P-H. & Sciberras J-C. (2008). Le travailleur économiquement dépendant : quelle protection ?. Rapport Ministère du Travail, des Relations sociales, de la Famille et de la solidarité. [Online]
- Barns S. (2020). *Platform Urbanism: Negotiating Platform Ecosystems in Connected Cities*. Singapore: Palgrave McMillan.
- Bargain G. (2018). Quel droit du travail à l'ère des plateformes numériques ?. *Lien social et Politiques*, 81, 21–40.
- Bednarz F. (2010). Building up intercultural competences: challenges and learning processes. In: *Building intercultural competences: A handbook for professionals in education, social work and health care* (eds. M. Onorati, F. Bednarz). Leuven: Acco. P. 29-52.
- Bellier S. (1999 b). La compétence, in P. Carré. & P. Caspar (Eds.), *Traité des sciences et des techniques de la formation*. Paris. Dunod. 223-244.
- Bernier A. & Monchatre S. (2018). Introduction : emploi, travail et compétences à l'épreuve du numérique. *Lien social et Politiques*, 81, 4–20.
- Bignami, F., & Onorati, M.G. (Eds.). (2014). *Intercultural Competences for Vocational Education and Training. Experiential Learning and Social Contexts for Enhancing Professional Competences*. Milano: Egea.
- Boboc A. & Metzger J-L. (2019). La formation continue à l'épreuve de sa numérisation. *Formation Emploi : Revue française des sciences sociales*. 145. 101-118.
- Boyd, D. (2014). *It's complicated: The social lives of networked teens*. New Haven, CT: Yale University Press.
- Brynin M. (2006). Gender equality through computerisation. *European Sociological Review*, 22(2), 111-123. doi:10.1093/esr/jci046

- Buente W. (2015). Digital Citizenship or Inequality? Linking Internet Use and Education to Electoral Engagement in the 2008 U.S. Presidential Election Campaign. *Bulletin of Science, Technology & Society*, 35(5-6), 145–157.
- Bureau M.C., Corsani A., Giraud O. & Rey F. (2019). *Les zones grises des relations de travail et d'emploi*. Buenos Aires, Editorial Teseo.
- Cant C. & Mogno M. (2020). Platform Workers of the World, Unite! The Emergence of the Transnational Federation of Couriers. *South Atlantic Quarterly*, 119 (2).
- Cardon D. (2019). *Culture numérique*. Paris. Presses de Sciences Po.[Online]
- Cardon A. & Casilli A. (2015). *Qu'est-ce que le digital labor ?*. Bry-sur-Marne. Etudes et controverses.
- Casilli A. (2019). *En attendant les robots : enquête sur le travail du clic*. Paris. Seuil.
- Cedefop (2020). Developing and matching skills in the online platform economy: findings on new forms of digital work and learning from Cedefop's CrowdLearn study. Luxembourg: Publications Office. Cedefop reference series; No 116.
- Cedefop (2021). Skill development in the platform economy: comparing microwork and online freelancing. Luxembourg: Publications Office of the European Union. Cedefop research paper; No 81. <http://data.europa.eu/doi/10.2801/592284>
- CEDEFOP. (2014). *Terminology of European education and training policy*. Luxembourg. Publications Office of the European Union.
- Ciccarelli R. (2018). *Forza lavoro. Il lato oscuro della rivoluzione digitale*. Roma. DeriveApprodi. 27.
- Cisel M. (2014). MOOC : les conditions de la réussite. *Distances et médiations des savoirs*, 8, [Online].
- Colclough C. (2020). Workers' rights: negotiating and co-governing digital systems at work. *Social Europe*. [Online]
- Collovald A. & Mathieu L. (2009). Mobilisations improbables et apprentissage d'un répertoire syndical. *Politix*, 86, 119-143.
- Coulet J-C. (2011). La concept de compétence : un modèle pour décrire, évaluer et développer les compétences. *Le travail humain*, 74, 1-30.
- Courtmont A. & Le Galès P. (2019). *Gouverner la ville numérique*. Paris. PUF.
- Delhey M. J. (2018). *Machine Automation and the Critique of Abstract Labor in Hegel's Mature Social Theory*. Thesis. Georgia State University. [Online]
- De Nanteuil-Miribel M. & Zune M. (2016). Éditorial : Économie collaborative et (in)justice sociale. *Revue Française de Socio-Économie*, 17, 5-12.
- De Stefano V. (2016). The Rise of the 'Just-in-Time Workforce': On-Demand Work, Crowd Work, and Labour Protection in the 'Gig-Economy'. *Comparative Labor Law & Policy Journal*, 37(3), 471-504.

- Dif-Pradalier M. & Dufresne A. (2019). Les territoires de la résistance aux plateformes. La naissance de la fédération transnationale des coursiers. *Into the black box*. [Online].
- Dietrich A. (2002). Les paradoxes de la concept de compétence en gestion des ressources humaines. *Revue Sciences de Gestion*, 33, 97-121.
- Didry C., (2016). *L'institution du travail. Droit et salariat dans l'histoire*, Paris, La Dispute, coll. « Travail et salariat ».
- Drahokoupil J. & Piasna A. (2017). Work in the Platform Economy. Beyond Lower Transaction Costs. *Intereconomics : Review of European Economic Policy*. 52(6). 335-340.
- DREES-DARES (2017-2018). Séminaire « Formes d'économie collaborative et protection sociale »
- Dufresne A. & Leterme C. (2021). App workers united: The struggle for rights in the gig economy, *GUE/NGL Study* [Online].
- Dusi D. (2017). Investigating the exploitative and empowering potential of the presumption phenomemon. *Sociology Compass*, 11(6).
- Emejulu A. & McGregor C. (2016). Towards a radical digital citizenship in digital education. *Critical Studies in Education*, 1-17. doi:10.1080/17508487.2016.1234494
- European Commission. (2020). A European approach to micro-credentials. Output of the micro-credentials higher education consultation group. European Commission. Available at: <https://education.ec.europa.eu/sites/default/files/document-library-docs/european-approachmicrocredentials-higher-education-consultation-group-output-final-report.pdf>.
- European Commission (2021). Study to support the impact assessment of an EU initiative to improve the working conditions in platform work. Available at: <https://ec.europa.eu/social/main.jsp?catId=738&langId=en&pubId=8428&furtherPubs=yes>.
- European Commission (2019). ESCO Handbook - European Skills, Competences, Qualifications and Occupations. European Commission. Directorate-General for Employment, Social Affairs and Inclusion. Available at: <chrome-extension://efaidnbmnnnibpcajpcgclefindmkaj/viewer.html?pdfurl=https%3A%2F%2Fec.europa.eu%2Fesco%2Fportal%2Fdocument%2Fen%2F0a89839c-098d-4e34-846c-54cbd5684d24&clen=1716243>
- Fabo B., Karanovic J. & Dukova K. (2017). In search of an adequate European policy response to the platform economy. *Transfer*, 23(2), 163-175.
- Fagioli A. (2021). To exploit and dispossess. The twofold logic of platform capitalism. *Work Organisation, Labour & Globalisation*. 15 (1). 126-137.
- Fisher E. (2012). How less alienation creates more exploitation? Audience labour on social network sites. *TripleC – Cognition Communication Co-operation*, 10(2), 171-183.
- Frey, C. and M. Osborne (2013), "The Future of Employment: How Susceptible are Jobs to Computerisation?" Oxford Martin School Working Paper.
- Friedman G. (2014). Workers without employers: shadow corporations and the rise of the gig

economy. *Review of Keynesian Economics*, 2(2), 171-188.

Godin B. (2015). *Innovation contested: The idea of innovation over the centuries*. London. Routledge.

Gomes, B. (2018). The Digital Platform: A New Mode of Labour Exploitation. *Actuel Marx*, 1(1), 86-96.

Hanakata N. & Bignami F. (2021). Platform Urbanization and the Impact on Urban Transformation and Citizenship. *South Atlantic Quarterly*, 120(4).

Huws, U.; Spencer, N.H.; Joyce, S. (2016). *Work in the European gig economy: research results from the UK, Sweden, Germany, Austria, The Netherlands, Switzerland and Italy*. Brussels: Foundation for European Progressive Studies.

Goliez A. (2021). Data sovereignty, SATW [Online]

Graham M., Lehdonvirta V., Wood A-J., Barnad H. & Hjorth I. (2018). Could online gig work drive development in lower-income countries? In Galperin H. & Alarcon A. (2018). *The future of Work in the Global South*. Ottawa, IDRC, 8-11.

Gray L. M. (2016). Your job is about to get “taskified”. *Los Angeles Times*. [Online]

Hargittai E. & Hinnant A. (2008). Digital inequality: Differences in young adults' use of the internet. *Communication Research*, 35(5), 602-621. doi:10.1177/0093650208321782

Hargittai E., Piper A. M. & Morris M. R. (2018). From internet access to internet skills: Digital inequality among older adults. *Universal Access in the Information Society*. doi:10.1007/s10209-018-0617-5

*Hochschild, A. R. (1983). The managed heart: commercialization of human feeling. Berkeley: University of California Press.*

ILO (2020). The impact of the COVID-19 pandemic on jobs and incomes in G20 economies. *ILO-OECD paper prepared at the request of G20 Leaders Saudi Arabia's G20 Presidency 2020* [online].

Jamil R. (2020). Uber and the making of Algoticon – Insights from the daily life of Montreal drivers. *Capital & Class*, 44(2). 241–260.

Jarrett K.(2016). *Feminism, Labour and Digital Media. The Digital Housewife*. London, Routledge.

Johnston H.; Caia A.; Silberman M.; Ceremigna M.; Hernandez D.; Dumitrescu V. (2020). Working on digital labour platforms. A trade union guide for trainers on crowd-, app- and platform-based work. Brussels, ETUI.

Joyce S., Neumann D., Trappman V. & Umney C. (2020). A global struggle: worker protest in the platform economy. *ETUI, The European Trade Union Institute* [Online].

Kenney M. & Zysman J. (2016). The Rise of the Platform Economy. *Issues in Science and Technology*, 32(3), 61-69.

Kirchner S. & Schüssler E. (2019). The Organization of Digital Marketplaces: Unmasking the Role of Internet Platforms in the Sharing Economy, in Göran A., Brunsson N. (eds.),



- Organization outside Organizations*. Cambridge (MA), Cambridge University Press, 131-154.
- Lichtenberger Y. (2003). Compétence, compétences. In Allouche J. (Ed.). *Encyclopédie des ressources humaines*. Paris, Éditions Vuibert, 203-215.
- Livian Y.-F. (2002). Petite introduction à une narratologie de certains thèmes de gestion des ressources humaines. *Gérer et comprendre*, 70, 41-47
- Livingstone S. & Helsper E. (2010). Balancing opportunities and risks in teenagers' use of the internet: The role of online skills and internet self-efficacy. *New Media & Society*, 12(2), 309-329. doi:10.1177/1461444809342697
- McAdam D., *Freedom Summer. The idealists revisited*, Oxford, Oxford University Press, 1988.
- Martin A. & Ross G. (1999). *The Brave New World of European Labor. European Trade Unions at the Millennium*. New York: Berghahn.
- McCosker, A., Vivienne, S., & Johns, A. (Eds.). (2016). *Negotiating digital citizenship: Control, contest and culture*. London, UK: Rowman & Littlefield.
- Méda D. (2019). Le nouveau monde enchanté des plateformes : du mythe à la désillusion. In Abdelnour S., Méda D. (dir.), *Les nouveaux travailleurs des applis*, Paris, Puf.
- Moeglin P. (2014). L'enseignement supérieur au défi du numérique – MOOC : de l'importance d'un épiphénomène. *Futuribles*, 398, [Online].
- Mossberger K., Tolbert C.J. & McNeal R.S. (2008). *Digital Citizenship: The Internet, Society, and Participation*. Cambridge, MA: MIT Press
- Montmollin, M. de (1984). *L'intelligence de la tâche. Élément d'ergonomie cognitive*. Berne, Peter Lang.
- Moore P. V. & Joyce S. (2020), Black box or hidden abode? The expansion and exposure of platform work managerialism, *Review of International Political Economy*, 27(4), 926-948.
- More C. (1982). Skill and survival of apprenticeship. In S. Wood (Ed.), *The degradation of labour? Skill, deskilling and the labour process*. London. Hutchinson. 109-121.
- Nadeau D. (2012). Monopole de représentation syndicale et droits individuels des salariés : l'incontournable défi de la diversité ! *Les Cahiers de droit*, 53(1), 139-159.
- Nasom-Tissandier H. & Sweeney M. (2019). Les plateformes numériques de transport face au contentieux. In Abdelnour S., Méda D. (dir.), *Les nouveaux travailleurs des applis*, Paris, Puf.
- Negri S. D. (2021). The Labour Process and the Emergence of Workers' Mobilisation in Delivery Platforms in Argentina. A Mixed Methods Study. *New Sociological Perspectives*, 1(1.).
- Newlands G., Lutz C. & Fieseler C. (2018). Collective action and provider classification in the sharing economy. *New Technology, Work and Employment*, 33(3), 250-267.

OECD (2020). What have platforms done to protect workers during the coronavirus (COVID-19) crisis? [Online].

Oyedemi T. (2015). Internet access as citizen's right? Citizenship in the digital age. *Citizenship Studies*, 19(3), 450-464. doi: 10.1080/13621025.2014.970441

Palier B. (2019) Work, social protection and the middle classes: What future in the digital age?. *International Social Security Review*, 72,113–133.

Pirone M. et al. (2020). COVID-19 Impact on Platform Economy: A Preliminary Outlook. University of Bologna [Online].

Platform Cooperativism Consortium. What Is a Platform Co-op?. [Online]

Polkowska D. (2020). Unionisation and mobilisation within platform work: towards precarisation – a case of Uber drivers in Poland. *Industrial Relations Journal*, 52(1), 25-39.

Quodling, A. (2016). Platforms are eating society: Conflict and governance in digital spaces. In A. McCosker, S. Vivienne, & A. Johns (Eds.), *Negotiating digital citizenship: Control, contest and culture* (pp. 131-146). London, UK: Rowman & Littlefield International.

Rani U., Dhir R.K. (2020). Platform Work and the COVID-19 Pandemic. *The Indian Journal of Labour Economics*, 63, 163–171.

Ravenelle A. (2017). Sharing economy workers: selling, not sharing. *Cambridge Journal of Regions, Economy and Society*, 10(2), 281-295.

Rodríguez Fernández M. L., *Rights for digital Platform workers*. [Online].

Rosenblat A. & Stark L. (2016). Algorithmic Labor and Information Asymmetries: A Case Study of Uber's Drivers. *International Journal of Communication*, 10, 3758-3784.

Scholz, T. (2016). Platform Cooperativism – Challenging the Corporate Sharing Economy. *Rosa Luxembourg Stiftung* (NY Office). [Online].

Schor J. B., Attwood-Charles W. (2017). The “sharing” economy: labor, inequality, and social connection on for-profit platforms. *Sociology Compass*, 11(8), 1-16.

Schor J. B. et al. (2020). Dependence and Precarity in the Platform Economy. *Theory and Society*, 49, 833-886.

Schultz T.W. (1961) Investment in Human Capital. *American Economic Review*, 51, 1-17.

Selwyn N. (2011). *Schools and schooling in the digital age: A critical analysis*. London, UK; New York, NY.: Routledge.

Serrano L., Sianes A. & Ariza-Montes A. (2020). Understanding the Implementation of Airbnb in Urban Contexts: Towards a Categorization of European Cities. *Land*, 9(12) [Online].

Soares Carvalho, A. P., & Bignami, F. (2021). Social development through (global) citizenship education: the Brazilian case. *Intercultural Education*, 32(4), 464-475. doi: 10.1080/14675986.2021.1893988

Srnicek N. (2017). *Platform Capitalism*. Polity Press Ltd, Cambridge.

- Stanford J. (2017). The resurgence of gig work: Historical and theoretical perspectives. *The Economic and Labour Relations Review*, 28(3), 382-401.
- Stark L. (2016). Recognizing the Role of Emotional Labor in the On-Demand Economy. *Harvard Business Review*. [Online].
- Stark D. & Pais I. (2020). Algorithmic Management in the Platform Economy. *Sociologica*, 14(3), 47-72.
- Stewart A. & Stanford J. (2017). Regulating work in the gig economy: What are the options? *The Economic and Labour Relations Review*, 28(3), 420-437.
- Stiegler B. & Kyrou A. (2016). Le revenu contributif et le revenu universel. *Multitudes*, 63, 51-58.
- Subramanian D. & Zimmermann B. (2017). Voice in French Corporate Training: A critical issue in developing employee. *Economic and Industrial Democracy*, 2, 1-27.
- Supiot A. (2000). Les nouveaux visages de la subordination. *Droit social*, 2, 131-145.
- Tarrow S. (2005). *The New Transnational Activism*. Cambridge University Press.
- Tassinari A. & Maccarrone V. (2017). The mobilisation of gig economy couriers in Italy: some lessons for the trade union movement. *Transfer*, 23(3), 353-357.
- Tassinari A. & Maccarrone V. (2020). Riders on the Storm: Workplace Solidarity among Gig Economy Couriers in Italy and the UK. *Work, Employment and Society*, 34(1), 35–54.
- Thelen K. (2018). Regulating Uber: The Politics of the Platform Economy in Europe and the United States. *Perspectives on Politics*, 16(4), 938-953.
- Todolí-Signes A. (2017). The 'gig economy': employee, self-employed or the need for a special employment regulation? *Transfer*, 23(2), 193-205.
- Trappmann V., Bessa I., Joyce S., Neumann D., Stuart M. & Umney C. (2020). Global labour unrest on platforms. The case of food delivery workers. *Friedrich-Ebert Stiftung* [Online].
- Uber. (2019). L'art de la conversation pour un chauffeur VTC. [Online].
- Valencia Castro B., Partenio F. & Hidalgo Cordero K. (2020). Pandemic Meets Precarity: The Case of Platform Delivery Work in Latin America, [Online].
- Vallas S. & Schor J. B. (2020). What Do Platforms Do? Understanding the Gig Economy. *Annual Review of Sociology*, 46(1), 16.1-16.22.
- Vallas S. P. (1990). The Concept of Skill. A Critical Review. *Work and occupations*, 17(4), 379-398.
- Vandaele K. (2018). Will Trade Unions Survive in the Platform Economy? Emerging Patterns of Platform Workers' Collective Voice and Representation in Europe. *ETUI Research Paper* [Online].
- van Deursen A. J. & van Dijk J. A. (2019). The first-level digital divide shifts from inequalities in physical access to inequalities in material access. *New Media & Society*, 21(2), 354-375. doi:10.1177/1461444818797082

van Deursen A. & van Dijk J. (2011). Internet skills and the digital divide. *New Media & Society*, 13(6), 893-911. doi:10.1177/1461444810386774

Verzat C. & al. (2016). Apprendre par soi-même l'entrepreneuriat via un MOOC. *Revue française de gestion*, 257(4). 33-52.

Zuboff S. (1988). *In the Age of the Smart Machine. The Future of Work and Power*. New York. Basic Books.

Zuboff S. (2019). *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*. New York. PublicAffairs.