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The Highest Skilled Workers of Industry 4.0: New Forms of Work Organization for New Professions. A Comparative Study

Matteo Avogaro ¹

Abstract

Purpose – The purpose of the paper is to investigate the figure of the highest skilled workers of Industry 4.0, the need of protection and more freedom to operate in the labour market, and the possible solution to this issue.

Design/methodology/approach – The paper analyses the evolution of work organization fostered by Industry 4.0, and in particular the juridical figures of strategic employee sharing, new mutualist workers' organizations and the French statutory regulation of 2016 concerning legal protection for workers on platform.

Findings – The paper highlights how the digitization of manufacturing will modify the condition and the requests of its highest skilled workers. To reply to this challenge, the better solution seems to be a flexible approach, regulated by statutory law – possibly integrated by collective bargaining – to allow the parties to chose the best juridical structure for each practical situation, avoiding rigid regulations that could impair the effectiveness of the solutions analysed.

Research limitations/implications – The research uses an analytical and comparative approach based on statutory regulation and workers' organizational praxis, to provide for a detailed description of the considered juridical figures.

Originality/value – This paper analyses the most relevant juridical structures that could be adapted to assure a relevant degree of labour protection to the considered highest skilled workers, allowing them, at the same time, to provide their services to a wide range of customers, highlighting pros and cons of each considered strategy and suggesting an overall approach to this issue, from a European point of view.

Paper type – Qualitative Research Approach has been adopted in this Paper.

Keywords - *Industry 4.0, Highest skilled workers, Strategic employee sharing, Umbrella companies, Associational unionism, Work on platform.*

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1. Industry and Manufacturing are Facing the Rise of a New Paradigm of Workers

The almost global process of evolution and digitization involving manufacturing and in general the industrial sector – known as Industry 4.0 – seems to be destined to influence and transform a vast number of aspects concerning factories organization and, perhaps, the traditional idea of work itself.²

The affirmation of a circular interaction between research, production, services, and consumer, is based on the rapid diffusion of smart machinery and commodities³ that, utilizing sensors, big-data, and mobile internet connections, allows entrepreneurs to know in real time consumers' reactions in the market, leading to just-in-time production, together with the increased possibility to work remotely, by mean of smartphones and tablets. This technology, not requesting the contextual presence of a human operator, will influence, among other elements, the contents of the labor agreements concerning the analyzed productive sector.

In this frame of reference, the employer's power of direction, the distinction between time devoted to work and private life, the level of tasks, the consequent education requests and the structure of retribution are going to encounter a rapid evolution.

Typical employees of Industry 4.0, indeed, will get used to being more autonomous than in the recent past, working in a team, covering different roles and with a problem-solving approach, rather than limiting themselves to execute the employer's instructions.⁴ It is possible to envisage that employees will be able to spend part of their business hours outside the factory, thanks to

² See, *inter alia*, with reference to digitization, Industry 4.0 and their impact on work organization, McKinsey Global Institute, *A future that works: automation, employment and productivity*, McKinsey Global Institute, 2017; F. Seghezzi, *La nuova grande trasformazione*, Adapt University Press, 2017; K. Shawb, *The Fourth Industrial Revolution*, World Economic Forum, 2016; M. Weiss, *Tecnologia, ambiente e demografia: il diritto del lavoro alla prova della nuova grande trasformazione*, Diritto delle Relazioni Industriali, 3, 2016, 625 ff.; D. Wetzels, *Arbeit 4.0: Was Beschäftigte und Unternehmen verändern müssen*, Verlag Herder, 2015.

³ M. Tiraboschi, F. Seghezzi, *Il piano nazionale industria 4.0: una lettura lavoristica*, Labour Law Issues, 2, 2, 2016, I.16. For a reading of Industry 4.0 as a development of technologies adopted from the Eighties, see A. Salento, *Industria 4.0, imprese, lavoro. Problemi interpretative e prospettive*, Rivista Giuridica del Lavoro e della Previdenza Sociale, 2, 2017, 177-178.

⁴ R. Del Punta, *Un diritto per il lavoro 4.0*, paper presented during the conference *Impresa, lavoro e non lavoro nell'economia digitale*, Brescia, 12-13 October 2017, 5-10; for a different point of view, emphasizing the increasing possibilities of coordination and control of work and productive processes brought by Industry 4.0, see A. Salento, *Industria 4.0, imprese, lavoro, op. cit.*, 183-186.

the possibility to instruct or intervene on smart machinery by remote.⁵ The added value of these workers will be, therefore, measured, mainly, on the base of their ability to reach personal objectives, with following modification of the essential characteristics of retribution, moving towards more pervasive customization, with a debated reduction of all-embracing treatments provided by collective agreements.⁶

Approaching this scenario, the possibilities to accede to education opportunities will acquire a central role, being the key elements that allow employees to be updated on the rapid mutation of production tools and processes, and permitting them to remain competitive in the labor market, with a possibility to proceed in respective careers.⁷

The aforementioned trend, therefore, seems to be characterized by a long list of pros and cons.

By the side to a work performance becoming more various, independent, creative and, in case of most positive experiences, permitting to well conjugate private and working life, there is the risk represented by an increase of the already ongoing polarization of the labor market. As a consequence, less organized and trained part of workforce appears as destined to be confined in the area of routinely and not well-paid jobs, with the menace to be replaced by robots able to realize their performance in a less expensive way.

In particular, the described phenomenon is highlighted by data collected in the recent OECD survey *Labor market polarization in advanced countries*, which heeds data concerning the labor market of 18 European countries between 1995 and 2010.⁸ The outcome of the analysis underlines, among other things, that in the last two decades, when the digitization process was not as fast as today, the

⁵ According to some experts, the aforementioned modification of working time imposes also to re-consider the problems connected with work-life balance, and with the increased employees' exposition to risks of diseases, stress and burn-outs. With reference to above, the French and Italian legislators already disciplined, in different manners, a "right to disconnect", to assure to workers a minimum period of effective rest, protected from employer's solicitation, see, *inter alia* R. Di Meo, *Il diritto alla disconnessione nella prospettiva italiana e comparata*, Labour Law Issues, 3, 2, 2017 and M. Avogaro, *Right to disconnect: French and Italian proposals for a global issue*, Revista Brasileira de Previdência, 1, 2018, 97 ff.; for a critical perspective about French framework, C. Mathieu, *Pas de droit à la déconnexion (du salarié) sans devoir de déconnexion (de l'employeur)*, Revue de Droit du Travail, 10, 2016, 592 ff.

⁶ F. Seghezzi, *La nuova grande trasformazione*, *op. cit.*, 190-193; R. Del Punta, *Un diritto per il lavoro 4.0*, *op. cit.*, 14-15.

⁷ R. Del Punta, *Un diritto per il lavoro 4.0*, *op. cit.*, 11-14.

⁸ K. Breemersch, J. Damijan, J. Konings, *Labour Market Polarization in Advanced Countries: Impact of Global Value Chains, Technology, Import Competition from China and Labour Market Institutions*, OECD Social, Employment and Migration Working Papers, No. 197, OECD Publishing, 2017, Paris, link <http://dx.doi.org/10.1787/06804863-en> (last consultation on 30 January 2019).

share of lowest paid employees augmented from 24.1% to 27.9%. Conversely, one of highest paid workers followed a more unusual path, increasing of 7,9 percentage points; this to the detriment of middle-class people, that in 1995 was representing almost a half of the workforce in the considered countries and, in 2010, are reduced to a third.⁹¹⁰¹¹

Following the statistics, the categories of workers of manufacturing could be split, in the following years, on three tiers. Yet, one group fails to meet and to fall within these parameters. Workers that are generally highly skilled that could decide not to provide their performance for only one company but that, at the same time, are not interested in becoming completely autonomous.

The bottom row is one of the lowest skilled employees, charged with simple and routine tasks. This is the category of workers more subject to the risk to disappear: their activities, indeed, are easily replaceable by new smart machinery, which is not only suitable to realize almost elaborate performances but also able to apprehend from the modifications of the surrounding environment.

According to the research of economists Frey and Osborne, in the study of the United States labor market, employees charged to deliver merchandise, office workers with less qualified tasks, along with employees operating in the industrial and construction field fell within the parameters of the lowest row of workers. Additionally, in the medium-long period, with the expansion of the automation process, also other categories, such as jobs concern education, legal, health services, and information technology, could be added to the said list.¹² The higher category is one of the people involved in the core business of

⁹ *Ivi*, 11.

¹⁰ From 27.6% to 35.5%, with the most relevant development concerning, on the first hand, technicians and associated professionals, moved from 13.7% to 17.0%, and traditional professionals, increased from 8.9% to 12.6%, *ibidem*.

¹¹ *Ibidem*.

¹² C.B. Frey, M. Osborne, *The future of employment: how susceptible are jobs to computerization?*, link: https://www.oxfordmartin.ox.ac.uk/downloads/academic/The_Future_of_Employment.pdf (last consultation on 30 January 2019), 36 ff. In particular, the Authors consider at risk of automatization or substitution, in one or two decades, by intelligent machineries, 47% of the whole US workers. Corresponding estimations have been realized with reference to European labour market, with an average quota of 40%-60% of workers in peril to lose their jobs in favour of machineries in next years, with a sharpen incidence in the Eastern and southern countries, see C. Degryse, *Digitalisation of the economy and its impact on labour markets*, ETUI aisbl, 2016, 20-21. A more optimistic approach has been shown by Häns Böckler Foundation that, in 2015, estimated a quota of 12% of German workers that could remain unemployed as a consequence of the modifications imposed by Industry 4.0, for a whole amount of 490,000 workers, compensated by about 430,000 new jobs created, see Hans Böckler Stiftung, *Digitalisierung: Kein Grund für Horrorszenarien*, link: https://www.boeckler.de/impuls_2015_17_1.pdf (last consultation on 30 January 2019).

the smart factories. Reference is made to the group, made of “autonomized” employees, used to work in a team, with flexible working time and personalized working conditions. With reference to this category, is worth to analyse the impact of collective bargaining: the increasing customization of the relationships between workers and employers could, indeed, reduce the area covered by uniform treatments identified primarily by national collective agreements, and open the way to a scenario where the individual labor agreement becomes the privileged tool to manage the labor relationship¹³.

Finally, the group of the peripheral workers, relevant but not involved in the core activities of the company – and on which will be focused the analysis of this paper – is composed by different kinds of people. A remarkable segment is made of highly qualified workers, with specific and researched competencies, as particular figures of informatics or engineers that, if not implicated in the central business of the smart factory, could become interested not to establish a labor relationship with a specific employer, but to limited periods of collaboration with a number of companies. In this context, an option is the one of the strategic employee sharing, where the worker is hired by a group of companies and is assigned when requested, to a single company of the group to realize his performance¹⁴. Another way – practicable concerning companies not organized in groups – could be to move from dependency to the condition of autonomous *tout court*¹⁵, providing high-level services not only to one employer but for several companies requesting that expertise. Part of peripheral workers, nonetheless, could also be composed by the expanding category of freelancers and workers on platforms, whose competencies could be utilized by the smart factories only when needed, without establishing with them a continuous labor relationship¹⁶.

The purpose of this paper is to focus attention on the new tools that could be utilized to organize the latter category of workers of Industry 4.0, in

¹³ F. Seghezzi, *Lavoro e relazioni industriali nell'Industry 4.0*, Diritto delle Relazioni Industriali, 1, 2016, 204; the work arrangement of this category of employees could be a specific version of the ICT-based mobile work, identified as a «*work arrangements carried out at least partly, but regularly, outside the 'main office', be that the employer's premises or a customised home office, using ICT for online connection to shared company computer systems*», see Eurofound, *New forms of employment*, Publications Office of the European Union, 2015, 72 ff.

¹⁴ Eurofound, *New forms of employment*, *op. cit.*, 5 ff.

¹⁵ See F. Seghezzi, *La nuova grande trasformazione*, *op. cit.*, 160; in this sense, see also IBA Global employment institute, *Artificial intelligence and robotics and their impact on the workplace*, 2017, link http://www.ioe-emp.org/fileadmin/ioe_documents/publications/Policy%20Areas/future_of_Work/EN/_2017-02-03_IOE_Brief_-_understanding_the_Future_of_Work_full_publication_-_web__print_version.pdf (last consultation on 30 January 2019), 52.

¹⁶ See F. Seghezzi, *La nuova grande trasformazione*, *op. cit.*, 179.

order to conjugate their request of independence, the evolved working conditions and adequate forms of protection able not to relinquish them in the area of pure self-employment. From this point of view, the contribution will mainly analyze the instances referred to the area of new mutualism, and the respective specific legal structures compatible with upcoming digitized environment¹⁷.

2. Strategic Employee Sharing and Highest Skilled Workers: An Opportunity Of Re-Launch of the Residual Legal Institute?

The first option that could be framed in the area of new mutualism, applied to peripheral and highest skilled workers of Industry 4.0, is strategic employee sharing.

This tool does not represent a novelty in some European legal systems but become, in recent years, an instrument that could reveal itself useful, according to a specific analysis realized by Eurofound in 2016, not only to manage work relationship in a different and more flexible way, but even to create new full-time working positions. In the light of above, it is considered an application of flexicurity principles in the context of labor agreements.⁽¹⁸⁾⁽¹⁹⁾

The general structure of strategic employee sharing is quite simple, although it needs to be declined. According to regulations of each national legal framework, the analyzing tool consists in a juridical person (the ‘employer group’) created ad hoc by a number of employers, with the aim to hire one or more workers that will realize their performance, upon request, in favor of the companies that founded the employer group.

The above-mentioned juridical person will have to act for non-lucrative purposes, and all the related costs will be sustained by the participating companies, along with criteria differentiated according to each national

¹⁷ “New mutualism ” constitutes an attempt to renew the principle that, at the beginning of XXth century, originated the mutual aid societies, by realising forms of voluntary association of people, with the purpose to reciprocal aid and protection to face the risks related with the digitized working activity; see, *inter alia*, M.W. King, *Protecting and representing workers in the new gig economy*, in R. Milkman, E. Ott (eds.), *New Labor in New York: precarious workers and the future of the labor movement*, 2014, ILR Press, Ithaca (NY), 166 ff. and G. de Peuter, N.S. Cohen, *Emerging labour politics in creative industries*, in K. Oakley, J. O’Connor (eds.), *The routledge companion to the cultural industries*, Routledge, Abingdon-on-Thames, 2015, § 24.

¹⁸ Eurofound, *New forms of employment: Developing the potential of strategic employee sharing*, Publication Office of the European Union, Luxembourg, 2016.

¹⁹ A. Artis, *Le groupement d’employeurs: une réponse à la recherche de flexibilité et de sécurité dans la gestion de l’emploi*, *Revue Interventions économiques*, 2013, 47, link <http://interventionseconomiques.revues.org/1982> (last consultation on 30 January 2019), 2 ff., in part. 5.

experience.²⁰ In this manner, these companies will have the possibility to dispose of a flexible and less expensive workforce, transferring all the obligations concerning the management of labor relationships to the formal employer they created. At the same time, the workers that adhered to the strategic employee sharing project will have the possibility to relate with only one employer – the employer group set up to this purpose – and to execute with it a dependent labor agreement, in general, full-time and without term.²¹ The effective performance, further, will consist of the sum of activities carried out for each company adhering to the employer group.²²

Therefore, strategic employee sharing will lead to the creation of four different juridical relationships. Firstly, a labor agreement between each employee and the employer group. Secondly, a working relationship involving the aforementioned employee and the utilizing company that adhered to a strategic employee sharing project. Thirdly, a service relationship between the employer group and the workers' users, referred to all the auxiliary and managing activities developed by the employer group in favor and lieu of the participating companies. Finally, an associative obligation, burdening on all the users that have to contribute to costs sustained by the employer group.²³

Examples of strategic employee sharing could be identified in several European countries those being, Austria, Belgium, Bulgaria, Finland, France, Germany, and Hungary.²⁴ Among them, the French and German experiences seem to be the most significant ones, both in reason of the dimension of these countries and respective economy, and also to underline the differences between the two models.

In France, strategic employee sharing has been regulated, for the first time, with the law enacted on 25 July 1985, under the name of Groupement

²⁰ In general, the participating companies undertake a joint and several liability for all the obligations concerning the workers hired by the employer group; notwithstanding, several countries experimented a different repartition of burdens, as France, that with *loi* of 28 July 2011 introduced the possibility, with specific provisions in the employer group bylaws, to introduce a different repartition of costs related to the work relationships and to social security obligations, i.e. *pro-rata* on the base of hours spent by workers for each company in a specific period of time, see P. Fadeuilhe, *Les groupements d'employeurs: responsabilité solidaire et exigences égalitaires*, *Droit Social*, 2012, 10, 899 ff.

²¹ On this aspect, see M. Antoine, B. Rorive, *Employers pools in Belgium*, Monitoring Innovative Restructuring in Europe, Liège, Belgium, 2006.

²² Eurofound, *New forms of employment*, *op. cit.*, 6 ff.

²³ A. Artis, *Le groupement d'employeurs: une réponse à la recherche de flexibilité et de sécurité dans la gestion de l'emploi*, *op. cit.*, 10.

²⁴ For a detailed analysis of all European experiences concerning strategic employee sharing, see Eurofound, *New forms of employment*, Publication Office of the European Union, Luxembourg, 2015, 16 ff.

d'employeurs (GE). The analyzed legal institute, aimed initially to allow a group of small or agricultural enterprises to hire one or more workers, has seen its field of application extended with reforms approved by local Parliament on 19 January 2000 and on 28 July 2011.²⁵ GE has been opened, in particular, to the participation of companies of more than 300 employees and, from February 2005 of local public entities (i.e., *collectivités territoriales*)⁽²⁶⁾⁽²⁷⁾

As concerns workers hired by GE, they have right, according to Article L. 1253-9 of *Code du Travail*, to a written agreement, indicating employment, pay, the professional qualification of the employee and a list of potential companies that might utilize the worker, together with the respective places of work. The same rule also provides for, with the last *alinéa*, an equal treatment between the employees directly hired by the utilizing company and the ones provided by the GE: therefore, working conditions of the GE's employee may vary according to each company that recurs to him, provided they are equal to the ones applying to the respective workers. The labor agreement executed between an employee and the GE is, in general, also in reason of the fact that this institute is aimed to contrast precarious work, without term, even though is possible, according to French law, to execute also *contrats à durée déterminée*. Finally, the worker is covered by the collective agreement applicable in the commercial field to whom the GE belongs.

Participating companies, on the other hand, have right to appoint the member of the management board of the employer group, and fix the fees to be paid to each employer when utilizing a GE's employee.²⁸ Costs concerning the functioning and management of GE, besides the ones related to workers and respective social security contributions, are in general equally burdened by the participating enterprises, but the rigid rule of joint and several liability has been mitigated in 2011, allowing parties to share costs on a pro-rata basis.²⁹

In Germany, strategic employee sharing has been introduced in the early 2000s, in the form of *Arbeitgeberzusammenschluss* (AGZ). According to local law, employer groups have not a specific legal basis, and in general, they are created in the form of a temporary agency,⁽³⁰⁾ ⁽³¹⁾ although the admitted

²⁵ G. Auzero, D. Baugard, E. Dockès, *Droit du travail*, Dalloz, Paris, 2018, 399.

²⁶ V. Xhaufclair, *La mutualisation de la main œuvre. Diversité des pratiques et nouveaux enjeux*, in J. Allouche (ed.), *Encyclopédie des ressources humaines*, Vulbert, Paris, 2012.

²⁷ M.F. Mouriaux, *Du fait eu droit. Diverses figures du temps partagé*, Document de Travail No. 77, Centre d'Études de l'Emploi, Paris, 2006, 12

²⁸ Eurofound, *New forms of employment*, *op. cit.*, 17.

²⁹ See above, note No. 19. In this field see also, with reference to the debate preceding the enactment of reform of 2011, O. Pouey, *Groupements d'employeurs: outil contre la précarité*, *La Semaine Juridique Social*, No. 6, 9 February 2010, 1054. For an analysis of the current discipline, G. Auzero, D. Baugard, E. Dockès, *Droit du travail*, *op. cit.*, 399-400.

³⁰ Eurofound, *New forms of employment: Developing the potential of strategic employee sharing*, *op. cit.*, 8.

juridical figures correspond to all legal entities except for associations, whose purpose cannot be mainly an economic activity.³² This element limited the possibility of expansion of AGZ. First of all, because temporary agencies inflict higher costs and tax to the participating firms. Moreover, collective agreements applicable to these organizations provide, typically, for better treatments – in particular with reference to minimum wage – than the arrangements executed by social partners of the sectors engaged in employee sharing, causing an imbalance between the conditions of shared employees and the ones of the workers already hired by the utilizing companies, revealing the latter as underpaid.⁽³³⁾⁽³⁴⁾ Furthermore, according to the figure and the rules concerning temporary agencies, participating companies are not encouraged to engage mutualist behaviors, since they act only “borrowing” workers from the employer group, neither their joint responsibility for workers’ costs and social security obligations is legally anchored.⁽³⁵⁾⁽³⁶⁾

To compensate the absence of precise rules concerning AGZ, and in order to assure quality of employment, transparency and fair employers’ behaviours, social partners – in particular the Federal Association of German Employers’ Alliances (BV-AGZ,) and main trade unions – elaborated in 2008 a code of conduct to discipline employer groups.³⁷ According to this chart, AGZ is committed to offering, when possible, permanent jobs with alternating assignments in the participating companies, equal treatment between shared and core staff workers, clear labor agreements indicating, *inter alia*, working time and schedule, tasks, the duration and period of work in different companies and the geographical distance between them. Participating employers, at the same time, are requested to share joint responsibility for the employees and management of AGZ, and to establish that only their

³¹ K. Osthoff, M. Langbein, *Gemeinschaftliche Arbeitsorganisation im Arbeitgeberzusammenschluss*, Arbeit, 2013, 22(2), 150 ff., in part. 153.

³² On this point see N. Hädinger, *Juristische Expertise: Der Arbeitgeberzusammenschluss in der Rechtsform des Vereins*, CERGE, Berlin, 2006.

³³ K. Osthoff, M. Langbein, *Gemeinschaftliche Arbeitsorganisation im Arbeitgeberzusammenschluss*, Arbeit, *op. cit.*, 150 ff., in part. 151.

³⁴ Eurofound, *New forms of employment*, *op. cit.*, 18-19.

³⁵ *Ibidem*.

³⁶ Eurofound, *New forms of employment: Developing the potential of strategic employee sharing*, *op. cit.*, 8; with reference to this aspect, see also T. Hartmann, *Arbeitgeberzusammenschlüsse in Deutschland – Kooperationsmodell für die Zukunft*, conference presentation, FlexStrat, Dortmund, 20 June 2012, link <https://docplayer.org/72821095-Arbeitgeberzusammenschluesse-in-deutschland-kooperationsmodell-fuer-die-zukunft-erfahrungen-loesungen-handlungsempfehlungen.html> (last consultation on 30 January 2019).

³⁷ Bundesverband der Arbeitgeberzusammenschlüsse Deutschland e.V., hereinafter “BV-AGZ”.

companies will have the possibility to the benefice of services provided by the employer group, excluding, therefore, third-party organizations.³⁸ The abovementioned code of conduct represents a clear good practice to reinforce the structure and protection provided by AGZ to respective employees; notwithstanding it remains a voluntary agreement, in general subject to the membership of founding companies to BV-AGZ, therefore its general application cannot be assured.

Although employer groups represent a potential right balance between instances of workers' flexibility and employees' requests of economic and juridical protection from working poor and unemployment, their diffusion is not wide and, mainly, not comparable to the one of agency work.

In Germany, the highest number of AGZ contemporary operating was seven, involving about 100 companies and 100 workers; in 2016 there were only 3 active employer groups, while the others ceased their activity for disparate reasons, as unfavorable work conditions, abandonment of the project by participating companies, or success of the initiative that allowed employees to be directly hired by founding enterprises.³⁹

In the same year in France the number of GE was about 4,500, employing 35,000 people, for a comprehensive turnover of Euro 650 million; most of them, in any case, were operating in the agricultural sector; excluding this commercial field, the number of GE dropped to 400, involving about 10,000 enterprises and 12,000 employees.⁴⁰

These numbers underline how strategic employee sharing, in recent years, was not able to compete with other forms of a flexible job, as temporary agency work, that involved in 2016 about 700,000 workers in France and about 850,000 in Germany. ⁽⁴¹⁾⁽⁴²⁾

³⁸ Eurofound, *New forms of employment*, *op. cit.*, 15 and T. Hartmann, E. Meyer-Wölfing, *Flexible Organisation der Arbeit und Auswirkungen auf die Beschäftigten in Arbeitgeberzusammenschlüssen, Abschlussbericht*, Project No. 2007-30-3, Hans-Böckler-Stiftung, Berlin, 2008.

³⁹ Eurofound, *New forms of employment: Developing the potential of strategic employee sharing*, *op. cit.*, 10-11.

⁴⁰ C. Everaere, *Le groupement d'employeurs: pourquoi cette forme d'emploi atypique sécurisante est-elle si marginale?*, *Revue des Sciences de Gestion*, 2016, 280, 71.

⁴¹ Corresponding to 2.7% of 26,584,000 employed people; for the first data see Eurostat, *Temporary employment agency workers by sex, age and NACE Rev. 2 activity*, link <http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do> (last consultation on 30 January 2019); for the information concerning employed population in France see OECD, *Labour Force Statistics 2018*, link https://doi.org/10.1787/oecd_lfs-2018-en (last consultation on 30 January 2019), 73.

⁴² Corresponding to 2.1% of 41,267,000 employed people; for the first data see Eurostat, *Temporary employment agency workers by sex, age and NACE Rev. 2 activity*, *op. cit.*; for the information concerning employed population in Germany see OECD, *Labour Force Statistics 2018*, *op. cit.*, 76.

Reasons could be found, beyond a general lack of awareness of the characteristics and potentialities of the commented institute, also in its nature and characteristics.⁴³ It represents a “win-win” strategy, assuring both flexibilities and, to employees, better protection than agency work, deriving from the increased tendency to execute labor agreements without term between the worker and the employer group, and by the income security and decent wage levels for involved workers.⁴⁴ These benefits are in any case compensated by higher levels of stress caused by the need to operate in different places and work contexts, and in the consequent lower possibility to participate to company union activities. Notwithstanding, strategic employee sharing also requires an additional effort to companies, which disheartened its utilization. This effect is caused, in principle, by the need for participating companies to reach an agreement in organizing the working hours and respective periods of utilization of shared workers.^{45,46} In addition, risks connected to workflow and work organization, the joint and several liabilities of all employers – usually not so extended in agency work – and the suspicion raised in competing enterprises by the idea to share the same worker that could, even accidentally, reveal market secrets to the counterparties,⁴⁷ play a role.

In any case, several studies concerning strategic employee sharing⁴⁸ highlight that this form of work organization involves, in particular, medium and well-skilled workers, while other kinds of flexible jobs are directed to the lowest part of employment scale.

This element might represent a relevant added value in the age of Industry 4.0. In this context, are precisely the most skilled workers, interested in emancipating from their preferential relationship with only one employer, electing employer groups as the instrument to provide their services for a number of companies without losing all the protections related to the status of

⁴³ Eurofound, *New forms of employment: Developing the potential of strategic employee sharing*, *op. cit.*, 28.

⁴⁴ With specific reference to the French case, A. Artis, *Le groupement d'employeurs: une réponse à la recherche de flexibilité et de sécurité dans la gestion de l'emploi*, *op. cit.*, 11.

⁴⁵ That could entail the necessity to dispose of an HR manager, not always present in small enterprises, that could be discouraged to the perspective to burden the respective costs, Eurofound, *New forms of employment: Developing the potential of strategic employee sharing*, *op. cit.*, 19-20.

⁴⁶ On this aspect, with reference to the risk of lack of immediate substitution of a worker provided by an employer group that has finished his shift, see C. Everaere, *Le groupement d'employeurs: pourquoi cette forme d'emploi atypique sécurisante est-elle si marginale ?*, *op. cit.*, 72.

⁴⁷ Therefore, a good practice could consist in organising employer group founded by companies operating in different commercial fields and of different dimension, in order to reduce at minimum risks of conflicts of interest; these issues are addressed by F. Delalande, L. Buannic, *Groupements d'employeurs, mode d'emploi*, Éditions Eyrolles, Paris, 2006.

⁴⁸ Eurofound, *New forms of employment*, *op. cit.*, 25.

a dependent worker. Nevertheless, most advanced companies might be forced to recur to this institute because skilled workers could not be available in a different context, as through agency work.

Therefore, the modification imposed to work organization by Industry 4.0 could lead to a new season of development for strategic employee sharing that, in any case, to spread positive effects at EU level could request a uniform and transparent regulation, not relinquished to the mere consent of the parties, that could find in the French discipline a valid model.

3. Highest Skilled Workers on Platforms: The Example of Upwork and the Possible Efforts to Conjugate Performance on Demand and Stability of Work

A second relevant sector that, in recent years, gathered the attention of highest skilled workers, is the one of work on platform.

Albeit in general associated with gig-workers and working-poor conditions, online platforms attract, indeed, some professionals with a demand for elaborate performances, medium-high wages, and dedicated services.

With reference to above, people providing for professional services are – according to the data collected through the COLLEEM survey conducted in 2017 by DG Employment and the Joint Research Centre in Seville of the European Commission,⁴⁹ the second group active on web platforms, after “Online clerical and data entry”, corresponding to about 30% of the overall number of interviewed workers operating through this system.⁵⁰ From a more detailed point of view, among analyzed people, 32.1% of women and 26.3% of men providing professional services are high-skilled workers.⁵¹ The impression made by the considered category is also confirmed by the analysis of wage levels, where a quota between 10% and 16% of platform workers is placed in the top decile of remuneration, while in the analogical context the average level of people scoring the abovementioned results corresponds to 10%.⁵²

⁴⁹ For an outline on COLLEEM survey see Eu Science Hub, *COLLEEM. COLLaborative Economy and EMployment*, link <https://ec.europa.eu/jrc/en/colleem> (last consultation on 30 January 2019). The inquiry, in particular, analysed data collected through interviews realized in 14 European countries (Germany, Netherlands, Spain, Finland, Slovakia, Hungary, Sweden, United Kingdom, Croatia, France, Romania, Lithuania, Italy, Portugal) and involved 32,409 people (around 2,300 per country), representative of all internet users between 16 and 74 years old.

⁵⁰ A. Pesole, M.C. Urzì Brancati, E. Fernández-Macías, F. Biagi, I. González Vázquez, *Platform Workers in Europe*, Publications Office of the European Union, Luxembourg, 2018, doi:10.2760/742789, 37-38.

⁵¹ *Ivi*, 38.

⁵² *Ivi*, 50-51.

In order to respond to the broad request of freelancers' and high-skilled services provided online, some specific platforms, as UpWork, Fiverr, PeoplePerHour, Freelancer, has been developed. Among them, one of the most relevant examples of online platform directed to attract (also) highest-skilled workers is UpWork.

It consists of a global freelancers' platform, founded in 2015, that allows business and independent professionals to collaborate remotely, and that reached about 12 million of registered freelancers⁵³. In particular, it allows customers to public posts containing job offers referred to self-employed workers, in general based on specific tasks to be realized; it could also involve employees, in the form of contracted work. The platform may also elaborate a shortlist of potential candidates on the base of customers' requests, or demand to freelancers to submit bids, in order to allow interested clients to choose the best proposal; finally, it eases and reinforces transparency of payments, acting as withholding agent in lieu of the end users.⁵⁴

From the freelancers' point of view, UpWork allows them to create their profiles, indicating respective skills, attitudes and services they would provide for; the platform consequently will highlight for them ideal jobs; nevertheless, they will have the possibility to search for projects, and respond to clients' invitations⁵⁵. The fee to be paid for these services, owed by the freelancers, will be charged on each invoice decreasing, after the worker will have overcome fixed thresholds of income⁵⁶.

Finally, the platform provides for additional services to the parties, as discounted education opportunities, investment plans and a specific payroll system for employees.

The role of highest skilled workers in this system is underlined by the categories of freelancers available, comprehending, among others, architects and floor planners, software developers, and a wide range of engineering, legal and accounting professionals.⁵⁷

What described above raises two considerations: first of all, the attention focused on the role of highest-skilled professionals in platform economy shall

⁵³ E. Pofeldt, *Upwork's new pricing model sparks outcry*, [www.forbes.com](https://www.forbes.com/sites/elainepofeldt/2016/05/07/freelance-giant-upworks-new-pricing-model-sparks-outcry/#2875eb7e4a20), 7 May 2016, link <https://www.forbes.com/sites/elainepofeldt/2016/05/07/freelance-giant-upworks-new-pricing-model-sparks-outcry/#2875eb7e4a20> (last consultation on 30 January 2019).

⁵⁴ UpWork, *How it works. An overview of hiring and freelancing on UpWork. If you are hiring*, link <https://www.upwork.com/i/how-it-works/client/> (last consultation on 30 January 2019).

⁵⁵ UpWork, *How it works. An overview of hiring and freelancing on UpWork. If you are freelancing*, link <https://www.upwork.com/i/how-it-works/freelancer/> (last consultation on 30 January 2019).

⁵⁶ The fee withheld corresponds to 20% up to 500 USD invoiced to the same client, 10% from 500.01 USD to 10.000 USD and 5% for a sum of 10.001 USD and more, *ibidem*.

⁵⁷ UpWork, *Browse top freelancers by category*, link: <https://www.upwork.com/i/freelancer-categories-all/> (last consultation on 30 January 2019).

not conceal the problems related to different kinds of workers and by different ways to exploit effective performance through online systems, that request specific policies and intervention by the competent legislator. Although, with Industry 4.0 and the progressive “autonomization” of employees of manufacturing, the number of highest-skilled professionals working online could grow specifically in the above-described area of peripheral workers that, in reason of their capabilities and their potential market, could decide to provide their services not for only one employer but numerous companies — moreover requesting not to lose all protections of dependent work to shift in the direction of pure self-employment.

In this context, two possible solutions on the field of new mutualism could be investigated: umbrella companies and associational unionism.⁵⁸

a) Umbrella companies: a possible way to conjugate professional activities on platforms and wage labor protections?

As Umbrella companies are intended specific entities created, first of all, with the purpose to formally hire platform workers, besides providing them with several forms of assistance. In this way, is possible to catch two goals: extend to the aforementioned workers the protections set forth by national legal frameworks for dependent work and, at the same time, allow them to manage their activity as freelancers.

A useful way to understand how these entities work is to consider a practical, and notorious, example: the Belgian-French company Société Mutuelle pour artistes (SMart), founded in 1998 and involving, nowadays, about 90,000 people in 9 different European countries.⁵⁹

The field of action of the company, that initially was limited to workers in the domain of arts, gradually widened, according to limits set by local legislation,

⁵⁸ The origin of the term “associational unionism” can be find in C.C. Heckscher, *The new unionism*, Basic Books, Inc., New York, 1988, 177 ff.; see also P. Ichino, *Le conseguenze dell'innovazione tecnologica sul diritto del lavoro*, *Rivista Italiana di Diritto del Lavoro*, 4, 2017, 529-530.

⁵⁹ SMart Belgium, *La coopérative en pratique?*, link <http://smartbe.be/fr/la-cooperative-en-pratique/> (last consultation on 30 January 2019) and SMart Belgium, *Historique*, link <http://smartbe.be/fr/a-propos/historique/> (last consultation on 30 January 2019). Even if SMart is one of the most relevant umbrella companies in Europe, other similar experiences have been developed, mainly in France, as Copaname, Grands ensemble, and in Italy, with the cooperative company DocServizi; see, *inter alia*, J.L. Dayan, *Nous ne somme pas une couveuse d'entreprise mais une mutuelle de travail*, Metis. Correspondances européennes du travail”, link http://www.metiseurope.eu/nous-ne-sommes-pas-une-couveuse-d-entreprises-mais-une-mutuelle-de-travail_fr_70_art_30268.html (last consultation on 30 January 2019) and F. Martinelli, “Doc Servizi e l’Europa”, DocServizi, 2017, 9 ff.

involving the area of independent contractors and, therefore, could reasonably be enlarged also to peripheral workers of Industry 4.0.⁶⁰

In general, the national subsidiaries of SMart adopt the juridical structure of a cooperative company.⁶¹ Platform workers seeking to join the “umbrella system” have to become affiliated with the company. In this way, they are also allowed to execute with it an additive labor agreement.

The worker, therefore, acquires an employee status. In the meantime, he is allowed to continue acting in the labor market as a self-employed, being free to manage his relationship with clients and, in case of Industry 4.0, with different companies requesting his specific services, as software programming or maintenance of smart machinery.

Only when an arrangement between the customer and the “umbrella worker,” regarding the content of the latter’s performance and on the respective compensation, is reached, the platform worker is required to ask the counterparty to execute a specific arrangement ascribing the working performance to SMart. Therefore, the performance will, in concreto, be invoiced to the customer by Smart; still, the umbrella company will provide the worker with the payment of the agreed sums, that can be delivered as a lump amount, or an ongoing basis.

To become affiliated to the cooperative company, the minimum fee required is about 50.00 Euro. In addition, an amount between 6.5% and 8.5% of each sum invoiced by the cooperative company in place of the freelancer is retained by SMart, in order to finance the organization.⁶²

The core service provided by the company grounds its roots in the idea of new mutualism: each associated is benefited with the possibility to have the wage deriving from the respective autonomous activity paid by SMart within seven days after each performance has been realized, also in case of the customer’s default.⁶³ This service is mainly financed through part of the 6.5-8.5 % as mentioned earlier withholding on each invoice issued by SMart on behalf of the freelancer. The mutualist element relies on the fact that all the funds raised

⁶⁰ S. Graceffa, *Rifare il mondo... del lavoro*, DeriveApprodi, 2017, 103-104.

⁶¹ In Belgium, the legal form adopted is the *Société coopérative à responsabilité limitée à finalité sociale*, regulated by the *Loi modifiant les lois sur les sociétés commerciales, coordonnées le 30 novembre 1935* issued on 13 April 1995 and its following amendments; see the respective corporate bylaws at link <http://smartbe.be/media/uploads/2017/01/Statuts-SMart-Coop-FR.pdf> (last consultation on 30 January 2019); in Italy SMart adopted the legal form *Società cooperativa a mutualità prevalente*, subject to the legislation of *impresa sociale*, regulated by Law 3 July 2017, No. 112, see the respective corporate bylaws at link <http://smart-it.org/media/uploads/2017/03/STATUTO-SMart-Italia.pdf> (last consultation on 30 January 2019).

⁶² The amount varies on the base of the SMart subsidiary analysed.

⁶³ See footnote No. 59.

among SMart associated are gathered, and then utilized on a case-by-case basis, to help the ones of them in trouble in reason of a third customer's breach of contract.

As indicated above, SMart does not provide for platform workers only with financial sustainment. The additional services at the disposal of SMart affiliates concerns relevant aspect of their profession: insurance against professional liability and referred to the tools and instruments utilized by the worker to realize his or her performance; free of charge courses aimed to strengthen workers' skills and other education opportunities and personalized advice on tax, administrative and social security issues and juridical consultancy services.
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Umbrella companies, therefore, seem to be a powerful instrument to assure, also to highest-skilled platform workers, relative freedom of movement in the market combined with protections recalling the ones of the traditional single-employer dependent labor agreement. Nonetheless, leaving the management of this tool wholly to market dynamics increases risks to go to the detriment of its added-value, subject to mutations of platforms' intentions. Besides that, some national regulations could prevent workers – in particular, the ones obliged to adhere to professionals organizations – to use this instrument.⁶⁷ Therefore, experts are urging for statutory regulation of the considered matter in some European countries, in order affirm the full lawfulness of the specific agreement to regulate the relationship between the platform worker and the umbrella company and to set it as mandatory. A similar solution could, indeed, encourage the development of these organizations, preventing them from objections that could be raised by courts or administrative bodies.⁶⁸

b) The “new” associational unionism: digitized cooperation to strengthen the position of self-employed workers in the labor market.

⁶⁴ SMart France, *Des services mutualisés*, link <http://www.smartfr.fr/des-services-mutualises/> (last consultation on 30 January 2019).

⁶⁵ As an example, SMart Belgium offers courses concerning intellectual property law to allow “creative” freelancers to better manage their activity, see SMart Belgium, *Sessions d'information*, link <http://smartbe.be/fr/services/sessions-dinformation/> (last consultation on 30 January 2019).

⁶⁶ SMart Belgium, *Conseil individuel*, link <http://smartbe.be/fr/services/conseil-individuel/> (last consultation on 30 January 2019).

⁶⁷ SMart Belgium, *Service juridique*, link <http://smartbe.be/fr/services/juridiction/permanence-juridique-contacts/> (last consultation on 30 January 2019).

⁶⁸ See, as concerns the Italian debate, P. Ichino, *Una legge per i platform workers e per le umbrella companies*, link <http://www.pietroichino.it/?p=46512> (last consultation on 30 January 2019).

The other favorite kind of freelancers' organizations falls under the category of "associational unionism," representing new models of workers' associations experimenting with alternative strategies from the binomial collective bargaining and strike.⁶⁹

In the same way of umbrella companies, the above mentioned organizations gather "analogic" and digitized jobs, and could reasonably involve also workers on platform of Industry 4.0.

The juridical form in general employed by these entities is one of the associations: members do not modify their juridical condition, remaining self-employed, but they are allowed to accede to exclusive services and resources.

Associational unionism can be framed in the area of new mutualism as well: joining together, freelancers can obtain benefits at a lower price and have more force to sustain their claims for better working conditions.

The most notorious example in this category is Freelancers Union, the association of freelancers founded in 1995 by Sara Horowitz⁷⁰.

Membership of Freelancers Union is virtual, opened to, among others, freelancers, consultants, independent contractors, part-timers, contingent employees and self-employed. An entrance fee is not required, while members are invited to provide for an optional donation. Since affiliation is not a relevant source of funding, the organization sustains itself utilizing grants and other support provided by public and private entities.⁷¹

Three are the main areas in which the activity of the organization is conducted: benefits, resources, and advocacy.

Benefits provided by Freelancers Union to its members mainly correspond to a wide range of insurance agreements. Among them, the most relevant is favorable professional liability insurance, providing for the affiliated customized protection, based on the characteristics of his/her business, up to USD 2,000,000, in case of negligent performance or unfounded client's claims.⁷² Other remarkable benefits are shaped on the particular conditions of independent workers in a liberalized legal framework as the American one: therefore, they concern health protection primarily.

⁶⁹ C.C. Heckscher, *The new unionism*, Basic Books, Inc., 1988, 189-190.

⁷⁰ Freelancers Union counts, in the United States, more than 350,000 affiliates; on the main issues it deals with, see S. Horowitz and T. Sciarra Poynter, *The Freelancer's Bible: Everything You Need to Know to Have the Career of Your Dreams*, Workman Publishing Company, 2012.

⁷¹ Among them, *inter alia*, New York City and State, Ford Foundation, J.P. Morgan Chase Foundation and Rockefeller Family Fund. See, in detail, Freelancers Union, *Funding*, link <https://www.freelancersunion.org/about/> (last consultation on 30 January 2019).

⁷² In this section is offered also a favourable general liability insurance, protecting freelancers from third party claims, see Freelancers Union, *Liability*, link <https://www.freelancersunion.org/benefits/liability/> (last consultation on 30 January 2019).

Resources provided by the association are mainly finalized to improve workers' education, simplify their day-by-day activity and let them have easy access to tax and legal advice. Interested members are granted with access to online guides concerning intellectual property law, their right to be paid and tips to this purpose, and instruction to correctly fulfill tax obligations. Also, specific assessment and advice services referred to matters as public health insurances are provided. Remarkable, in this field is, finally, the app which allows the worker to find, in a rapid way, a lawyer in case of need to assistance.⁷³

Fair work conditions and timely payments for freelancers are the most important goals pursued by Freelancers' Union advocacy. The association promoted, in particular, several campaigns culminated with the enactment, by the City of New York, of the Freelance Isn't Free Act.⁷⁴ The bill set forth rules concerning a broad category of freelancers operating in the City of New York, or under its law,⁷⁵ and perceiving more than USD 800.00 over four weeks of work: remarkable guarantees adopted in favor of the aforementioned independent workers are the right to be paid in 30 days after the work is delivered and the prohibition, for the customers, to refuse to execute a written agreement.⁷⁶

Finally, Freelancers Union assists its members in case they are attempting to expand their network, providing them with guides and organizing specific sessions, called Spark, aimed to promote meetups to create and develop freelancers' communities.⁷⁷

To summarize, private activism seems to be working well, but a temporary, solution to soothe the precarious condition of platform workers. Nevertheless, the recourse to "new mutualism," nowadays, cannot be considered a definitive reply. The absence of a consistent discipline concerning, at least at European level, umbrella companies, and the persisting obstacles limiting, both in Europe and in the U.S.A., unionism of autonomous workers, undermine the effectiveness of the solutions analyzed above, varying on the base of

⁷³ For a complete list, see Freelancers Union, *Resources for freelancers – All resources*, link <https://www.freelancersunion.org/resources/> (last consultation on 30 January 2019).

⁷⁴ Freelance Isn't Free Act, local law No. 140 of 2016, in force from 15 May 2017, link: <https://www1.nyc.gov/assets/dca/downloads/pdf/about/Freelance-Law.pdf> (last consultation on 30 January 2019).

⁷⁵ § 20-927 of the Freelance Isn't Free Act expressly excludes from the field of application of this law, sales representative, lawyers and people licensed for the medical profession.

⁷⁶ In case of law violation, specific sanctions are charged on the employer, as a fine of USD 250.00 for the absence of a written agreement, double damages and ad hoc civil penalties that could be imposed by a competent judge, see §§ 20-933 and 20-934 of the Freelance Isn't Free Act.

⁷⁷ Freelancers Union, *Spark*, link <https://www.freelancersunion.org/spark/> (last consultation on 30 January 2019).

regulations adopted by different countries. For these reasons, in several legal frameworks, statutory intervention in this field appears, nowadays, as the most reasonable solution to the considered issue.

4. The Example of the French Statue Concerning Work on a Platform: A Legislative Way to Improve Protection of Peripheral Workers of Industry 4.0?

At the end of the analysis of possible remedies to improve protections of peripheral workers of Industry 4.0, the model of the French legislative “charter” of work on the platform has to be considered.

Reference is made to the specific regulation introduced, at Article L. 7341-1 ff. of *Code du Travail*, with the extensive revision of the labor law framework provided by the *loi* of 8 August 2016.⁷⁸

The reform as mentioned earlier applies to all self-employed people working with an online platform defined according to Article 242 bis of *Code général des impôts*.⁷⁹ The platform considered are, therefore, the ones aimed to establish a commercial relationship between people, concerning among other things selling of goods or providing services, where the characteristics of the object of the work performance, and the respective price, are fixed by the platform itself. In the light of above, the considered legal framework is, hence, potentially relevant also to high-skilled workers of Industry 4.0 that, after having abandoned their dependent work, seek a wide range of clients, as self-employed workers, through a dedicated online platform.

In this case, the French law introduces specific rights concerning the said professionals, with respective burden weighing on platform.

⁷⁸ For a general reflection on the effects of the reform of 2016 – as regards work on platform – and on problems related to the digitization of a wide area of working activity concerning selling of goods and providing services, see I. Desbarats, *Quel statut pour les travailleurs des plateformes numériques? La RSE en renfort de la loi*, *Droit Social*, 2017, 11, 971 ff.

⁷⁹ Article 242 bis, alinéa 1, of *Code général des impôts*, set forth “Les entreprises, quel que soit leur lieu d’établissement, qui mettent en relation à distance, par voie électronique, des personnes en vue de la vente d’un bien, de la fourniture d’un service ou de l’échange ou du partage d’un bien ou d’un service sont tenues de fournir, à l’occasion de chaque transaction, une information loyale, claire et transparente sur les obligations fiscales et sociales qui incombent aux personnes qui réalisent des transactions commerciales par leur intermédiaire. Elles peuvent utiliser, dans ce but, les éléments d’information mis à leur disposition par les autorités compétentes de l’Etat. Elles sont également tenues de mettre à disposition un lien électronique vers les sites des administrations permettant de se conformer, le cas échéant, à ces obligations”. With reference to the wide category of workers on platform attained by the reform of 2016, see, C. Frouin, *L’entreprise face au numérique : incidences de la loi travail et de la loi pour une République numérique*, *Gaz. Pal.*, 2015, 81 ff.

More specifically, a platform will be, first of all, obliged to sustain professionals' education costs, in case the turnover of the worker would overcome the threshold defined by a Decree, nowadays corresponding to EUR 5,099.64⁸⁰.

In addition, particular attention is dedicated to trade union rights of the considered workers. Indeed, Articles L. 7342-5 and L. 7342-6 of the *Code du Travail* bestow them with a sort of right of strike,⁸² preventing the platform to interrupt the relationship with the workers, to engage their contractual liability or in any case to subject them to sanctions, whether they should give rise to protest movements to sustain their professional claims – and the expressed possibility to organize themselves in collective associations to defend their interest by mean a form of trade unions.⁸³

As concerns the obligations weighing on the platform, these entities are requested to indicate the characteristics of the services offered and the respective price, paying an indemnity to the worker for the periods spent in educational activities and, above all, contributing – in the limit of a plafond fixed by a Decree, to the costs sustained by the worker to be insured against accidents that may occur during his activity⁸⁴.

⁸⁰ Article L. 7342-3 of the *Code du Travail*, “Le travailleur bénéficie du droit d'accès à la formation professionnelle continue prévu à l'article L. 6312-2. La contribution à la formation professionnelle mentionnée à l'article L. 6331-48 est prise en charge par la plateforme. Il bénéficie, à sa demande, de la validation des acquis de l'expérience mentionnée aux articles L. 6111-1 et L. 6411-1. La plateforme prend alors en charge les frais d'accompagnement et lui verse une indemnité dans des conditions définies par décret”.

⁸¹ Décret no. 2017-774 of 4 May 2017 “Relatif à la responsabilité sociale des plateformes de mise en relation par voie électronique”, link <https://www.legifrance.gouv.fr/eli/decret/2017/5/4/ETST1710240D/jo/texte> (last consultation on 30 January 2019). The sum of EUR 5,099.47 corresponds to 13% of the plafond of social security insurance, set by Article 1.

⁸² Article L. 7342-5 of the *Code du Travail*, “Les mouvements de refus concerté de fournir leurs services organisés par les travailleurs mentionnés à l'article L. 7341-1 en vue de défendre leurs revendications professionnelles ne peuvent, sauf abus, ni engager leur responsabilité contractuelle, ni constituer un motif de rupture de leurs relations avec les plateformes, ni justifier de mesures les pénalisant dans l'exercice de leur activité”.

⁸³ Article L. 7342-6 of the *Code d Travail*, “Les travailleurs mentionnés à l'article L. 7341-1 bénéficient du droit de constituer une organisation syndicale, d'y adhérer et de faire valoir par son intermédiaire leurs intérêts collectifs”.

⁸⁴ Article L. 7342-2 of the *Code du Travail*, “Lorsque le travailleur souscrit une assurance couvrant le risque d'accidents du travail ou adhère à l'assurance volontaire en matière d'accidents du travail mentionnée à l'article L. 743-1 du code de la sécurité sociale, la plateforme prend en charge sa cotisation, dans la limite d'un plafond fixé par décret. Ce plafond ne peut être supérieur à la cotisation prévue au même article L. 743-1. Le premier alinéa du présent article n'est pas applicable lorsque le travailleur adhère à un contrat collectif souscrit par la plateforme et comportant des garanties au moins équivalentes à l'assurance

The solution provided by the French loi Travail is, therefore, a hybrid reply to issues analyzed in this essay. Article L. 7341-1 of the *Code du Travail* seems to remark that workers on platforms are considered, by law, as self-employed. However, the legal framework introduced with the reform of 2016 attempts to move the condition of workers on platform closer to the one of wage labor, providing rights – as trade unions rights and participation of the platform to costs connected to social security insurance – typical of dependent work.

Although several French experts underline that the considered reform is still partial and has to be enshrined in a broad landscape of extensive modifications to local welfare, concerning the envisaged universalization of unemployment treatments and public health insurance, it represents a remarkable element to be considered in the framework of a possible solution to the contemporary request of protection and more independence of peripheral workers of Industry 4.0⁸⁶⁸⁷⁸⁸.

5. Conclusions

The variety of options analyzed allows appreciating the different nature of possible solutions functional to improve the condition of high-skilled and peripheral workers of Industry 4.0.

In particular, strategic employee sharing and the different methods to reinforce the position of professionals working on platforms seem to represent two different, but not opposite, ways to provide professional services for a plurality of customers of the next industrial sector.

volontaire en matière d'accidents du travail mentionnée au premier alinéa, et que la cotisation à ce contrat est prise en charge par la plateforme”.

⁸⁵ A partial exception to the obligation to sustain individual insurance costs is represented by the case in which the worker adhered to a collective agreement, signed also by the platform, providing for the same service. In this case the platform will be not bound to contribute to individual outlays, as it already pays for the service guaranteed by the collective arrangement, see Article L. 7342-2 of the *Code du Travail*, alinéa 2.

⁸⁶ Among them, I. Desbarats, *Quel statut pour les travailleurs des plateformes numériques? La RSE en renfort de la loi*, *Droit Social*, 2017, 11, 971 ff., in part. 981.

⁸⁷ The extension of public sustainment for unemployment periods also to self-employed people and to dependent workers that voluntarily interrupted their previous labour relationship was an explicit objective indicated in the electoral program of President Emmanuel Macron, see En Marche!, *Le programme d'Emmanuel Macron le travail et l'emploi*, link <https://en-marche.fr/emmanuel-macron/le-programme/travail-emploi> (last consultation on 30 January 2019).

⁸⁸ On this point see D. Tabuteau, *La protection universelle maladie (Puma): une transfiguration législative de l'assurance maladie*, *Revue de Droit Sanitaire et Social*, 2015, 1058 ff.

Strategic employee sharing has its strengths in the possibility to guarantee, in most cases, to the concerned workers, a wage labor agreement without term, and even to create new workplaces, although requesting to share the daily performance between different companies, with a consequent augmentation of stress, and imposing to the participating enterprises to cooperate with the aim to manage employees' shifts and business hours. Additionally, it seems not to be suitable for competing companies, that might not be favorable to share the same professionals, with the risk of – also involuntary – disclosure of company secrets or reserved details.

On the other hand, work on platform – both in its version assisted by umbrella companies/associational unionism and in the one where statutory regulations as in France enhance protections – entails that involved peripheral professionals of Industry 4.0 will have to enter in the area of self-employment with a – at least partial – renunciation of the more protected status of employee. Notwithstanding, as indicated by COLLEEM survey, also work via platform might assure, to most educated workers, consistent earnings, also permitting them to operate in the broader market, without restrictions typical of strategic employee sharing, as the obligation to cooperate exclusively with participating companies.

Progressive digitization of industries and manufacturing will provoke, also in the sector of concerned highest skilled jobs, a modification of the traditional paradigm: workers will become more autonomous, flexible, with a less rigid organization of business hours, and with interest – and in some cases the need – to work for more customers rather than to only one employer. To provide for protection concerning these categories, the only private initiative, although supported by trade unions as in the case of strategic employee sharing, appear as not sufficient.

Therefore, a legislative intervention seems necessary.

In this direction, the best way could be represented by an articulated initiative at European level, in order not to permit market distortions, able not to exclude neither strategic employee sharing nor protected work on platform from the area of solutions reinforced, and so promoted, by law.

A statutory solution with the capability to promote both models, allowing the parties of labor relations to freely choose between the said different options, regulating by law the most general aspects of each institute, and relinquishing to social parties the discipline of organizational details, could be considered the best way to address, concerning highest skilled workers, the future technological evolution, in a way to hold together freedom to choose the way in which acting on the market without, at the same time, totally depriving this category of workers from the protections against risks related to work, characterizing traditional wage labor.

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