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Technologies 4.0, right to work and 2030 agenda implementation*

Tecnologias 4.0, direito ao trabalho e implementação da agenda 2030

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Abstract:
Technological innovations from the fourth industrial revolution, known as technologies 4.0, revived the debate about the future of work. On the one hand, there are concerns about automation and job losses. On the other hand, there are predictions about the emergence of new occupations. Given this scenario, this study aims to analyze how the right to work can be affected by 4.0 technologies and what is their impact on the implementation of Agenda 2030, and the consequent promotion of sustainable development. With a qualitative approach, based on the deductive method and bibliographic research, it was found out that the promotion of professional qualification is a central strategy – although it is not the only one – to realize the right to work and achieve the goals of Agenda 2030.
Key-work: Right to work. Fourth industrial revolution. Professional qualification. 2030 Agenda.

Resumo:
As inovações tecnológicas provenientes da quarta revolução industrial, designadas como tecnologias 4.0, reavivaram o debate sobre o futuro do trabalho. De um lado, há preocupações com a automação e a redução dos postos de trabalho. De outro lado, há previsões sobre o surgimento de novas ocupações. Diante desse cenário, este estudo objetiva analisar como o direito ao trabalho pode ser afetado pelas tecnologias 4.0, qual é a sua repercussão para a implementação da Agenda 2030 e consequente promoção do desenvolvimento sustentável. Com abordagem qualitativa, pautando-se no método dedutivo e em pesquisa bibliográfica, verificou-se que a promoção da qualificação profissional é estratégia central – embora não seja a única – para efetivar o direito ao trabalho e atingir as metas da Agenda 2030.
Palavras-chave: *Direito ao trabalho. Quarta revolução industrial. Qualificação profissional. Agenda 2030.*

1 Introduction

Human work is constantly transformed by technology, while technology is also shaped by workers, with a certain symbiotic relationship between them. In this sense, human work has already been impacted by the technological revolutions that have occurred at different times. It is observed the existence of technological milestones or, according to Cardwell (1991),

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technological turning points (moments of technological turn) throughout history, which are followed by metamorphoses in the world of work.

Thus, thinking about the future of work is not exactly an unprecedented or unexpected challenge, but it is certain that it has gained greater complexity due to the new technologies typical of the fourth industrial revolution or revolution 4.0 (Schwab, 2016), such as artificial intelligence, which have the power to cause faster changes and allow the automation not only of mechanical work, but also mental work and other more sophisticated activities.

The transformations arising from the *technological turning point* – designated as the fourth industrial revolution – can cause especially negative impacts on the world of work and, consequently, increase social inequality (Schwab, 2016).

For this reason, there is a marked global concern about the future of human work due to the potential increase in the automation of activities, as well as the new legal arrangements created for the hiring of labor – such as the *gig economy* (Woodcock; Graham, 2019), also known in Portuguese as the on-demand economy – which can lead, respectively, to a decrease in jobs and a worsening in working conditions.

Considering this context, this article aims to analyze how the right to work can be affected by the technologies of the fourth industrial revolution, here named as 4.0 technologies, and what is their repercussion for the implementation of the 2030 Agenda – the United Nations Human Rights Agenda – and the consequent promotion of sustainable development. To this end, with a qualitative approach, this study uses the deductive method (Gil, 2008) and is based on bibliographic research[1].

The results of the investigation are presented in this text and structured in three major parts: (i) identification of the characteristics of the 4.0 revolution and its impacts on the world of work, contextualizing it in time; (ii) understanding of how the right to work can be affected by 4.0 technologies and the concern with skills mismatches; (iii) analysis of the repercussions of the impacts of 4.0 technologies on the right to work for the implementation of the 2030

[1] The bibliographic search was carried out in the HeinOnline, Scielo, Google Scholar, LaborDoc and Capes Journal Portal databases based on the following search terms in English (because it was noted, in exploratory research, that most of the pertinent results were found in English. In addition, as the articles in Portuguese are cataloged in English due to the key words, they were included in the results): <future of work>, <future of work + technology>, <skills mismatch>, <work + technology>, <right to work>, <industry 4.0> and <work + 2030 Agenda>. The search returned a very large number of results (more than 100 thousand). As an initial selection criterion, the texts ordered by relevance in the filters of the databases used were used. The 10 most relevant from each database were selected, totaling 350 texts. The summary of each of them was read for a second filtering. In this second selection, 71 texts were selected, which were fully read. After this reading, 47 texts that had greater thematic relevance were used and were effectively used for the elaboration of this text.

Agenda and promotion of sustainable development. Finally, conclusions are drawn from the triangulation between these three major parts of the study.

2 Fourth industrial revolution and transformations in the world of work

About 250 years ago, history – of humanity, of work, of the economy, of cities, of communication, of consumption, of the environment, of law and of so many other fields – began to be told in a different way.

Technological transformations – at the same time cause and consequence of social, educational, cultural, urban, financial, economic metamorphoses, etc. – and their repercussions in the most diverse spheres have become temporal milestones, initiating a period of continuous and successive industrial revolutions, based on a set of technologies characteristic of each period and, therefore, also considered as *technological turning points* (Cardwell, 1991).

As Schwab and Davis (2018) summarize, The first industrial revolution began in the British textile industry in the mid-eighteenth century, was triggered by the mechanization of spinning and weaving, transformed existing industries, and fostered other innovations, such as the development of the steam engine, construction of railways, and the manufacture of steel.

Subsequently, between the end of the nineteenth century and the beginning of the twentieth century, a wave of new technologies took shape: the advent of electricity, the creation of assembly lines, and the popularization of the internal combustion engine marked the period named as the second industrial revolution.

Subsequent technological advances marked the third industrial revolution, which began in the mid-twentieth century and was essentially based on computing, starting from the computation of *mainframe* in the 1960s, through personal computing in the 1970s and 1980s and having the internet as its peak from the 1990s onwards (Schwab, 2016).

The impacts of these industrial revolutions on the world of work were numerous: a large part of rural work became urban and began to be carried out within factories; specialization of work; intensification of the pace of work; work automation; change of workplaces; expansion of office work, especially after the advent of computing (Saval, 2014); demand for greater qualification of the workforce; increased inequality (educational and remuneration) among workers (Katz, 2000); (possible) increase and persistence of unemployment rates (Brynjolfsson; Mcafee, 2011); and even, according to more pessimistic forecasts, the end of jobs (Rifking, 1996), among many other repercussions, in the way, place and pace of people working.

From the beginning of the twenty-first century, the so-called fourth industrial revolution (Schwab, 2016), based on digital technologies, has added complexities to these impacts on the world of work. Although digital technologies are not completely new (and, therefore, the inauguration of a "new" industrial revolution is still discussed), they have become more complex and, above all, integrated, causing ruptures in relation to the set of technologies typical of the third industrial revolution (Schwab, 2016). Thus, therefore, it is understood, from this study, that humanity has entered a new (fourth) industrial period.

The fourth industrial revolution, also called revolution 4.0 – in allusion to the term industry 4.0, "coined in 2011 at the Hannover fair to describe how this will revolutionize the organization of global value chains" (Schwab, 2016, p. 35) – has as technological bases artificial intelligence, cyber-physical system, the internet of things and services, the *Big Data*, cloud computing, among others that are capable of automate not only manual, mechanical, and routine work, but also (and especially) mental work (Ernst; Merola; Samann, 2018) – of cognitive and non-routine tasks (Author; Levy; Murnane, 2003) – and more sophisticated works that, until then, were only done by people. This movement tends, therefore, to increasingly remove human labor from the center of the production process (Sukhodolov, 2019).

In addition to the new fields of automation, 4.0 technologies allow faster, deeper and interconnected transformations, enabling customized mass production; the coordination of value chains in real time; cost reduction and optimization; accurate prediction of risks, failures, downtime; and the monitoring and targeting of industrial processes in a remote and collaborative manner (Nayyar; Kumar, 2020).

In this context of intense changes, concerns about the future of work, already evidenced in previous industrial revolutions, were resolved. "The fundamental uncertainty has to do with the number of jobs that will be replaced by automation. How long will it take and where will it go?" (Schwab, 2016, p. 87). In other words, the debate is controversial and focuses fundamentally on two scenarios.

On the one hand, more skeptical analyses (Brynjolfsson; Mcafee, 2011) predict the extinction or massive elimination of jobs due to the growing possibilities of automation, including in intellectual activities, thus having a scenario of job destruction.

On the other hand, arguments are established that, historically, previous industrial revolutions did not lead to the end of human labor, but modified it, creating new occupations, remodeling production processes, and demanding new skills (Vivarelli, 2014). In this second, more optimistic scenario, although it is recognized that new technological waves have

generated phases of job destruction, it is understandable that new and better jobs have been created (Nübler, 2016).

Although the justification that, historically, there was no extermination of jobs during the first three industrial revolutions is credible, history does not always repeat itself. In this sense, the concern with the destruction of work – or, with the effect of replacing human labor (Ernst; Merola; Samaan, 2018) – is necessary and pertinent. However, despite the potential of 4.0 technologies, not every type of activity can be (easily) automated, such as jobs that involve creativity and care. Furthermore, as Nübler (2016), the way to deal with the unintended consequences created by technological innovation, such as the destruction of jobs, corresponds to a choice – political, social and economic – that can calibrate the impact of these negative externalities on the labor market. It is not, therefore, a technological determinism, since technology is not an independent variable (Teixeira, 1998). Technology is, above all, a social product and its use derives from incentives and rewards offered by society itself (Gómez, 1997). "It all depends on the type of technology that each society will adopt" (Abramovay, 2021, p. 142), it is necessary to distinguish between technologies that replace work and those that enable work (Abramovay, 2021).

Thus, it is undeniable that "new technologies will drastically change the nature of work in all sectors and occupations" (Schwab, 2016, p. 88). However, evaluating historical learning, identifying activities that have not been and are unlikely to be automated, and understanding the possibility of making choices to neutralize negative externalities, the second scenario is observed as a more plausible – and desirable – future for the future of work, with the State, companies, people, and civil society organizations facing its challenges.

3 The right to work in the face of 4.0 technologies and skills mismatches

The right to work, understood as the "right of every individual to have the opportunity to ensure his material well-being and the development of his personality through the free exercise of a paid occupation" (Ilo, 1985, p. 1), It is recognized in domestic law and international law.

It is a fundamental social right guaranteed in Article 6 of the Brazilian Federal Constitution and permeates the national legal system, being the basis for the creation of policies such as the Worker Support Fund and the Unemployment Insurance Program (Fonseca, 2006).

At the international level, one of the objectives of the International Labor Organization (ILO) in the ILO Declaration on the Aims and Objectives (annexed to the Philadelphia Declaration) is the Organization's obligation to assist countries in implementing programs that

aim to (a) provide comprehensive employment for all; (b) to secure for all workers an occupation in which they have satisfaction in using their skills and knowledge to contribute to society; (c) encourage vocational training (Ilo, 1944). It is provided for as a human right in Article 23 of the Universal Declaration of Human Rights (Un, 1948) and guaranteed in the International Covenant on Economic, Social and Cultural Rights (ICESCR), ratified by Brazil in 1992 (Un, 1966).

According to Article 6 of the ICESCR, in addition to recognizing the right to work, States that ratify it must take measures to safeguard this right, including "technical and vocational guidance and training, the development of appropriate programmes, standards and techniques to ensure constant economic, social and cultural development and full productive employment under conditions that safeguard the rights of workers". individuals the enjoyment of fundamental political and economic freedoms" (Un, 1966).

In the same sense, ILO Convention No. 122 (C122) of 1964 follows, on employment policy (ratified by Brazil in 1969), and ILO Recommendation No. 122 (R122) of 1964, on employment policy. According to C122 (Ilo, 1964a), In order to solve the problem of unemployment and stimulate development, countries should develop a policy aimed at promoting full employment, productive and freely chosen work, ensuring that every worker has the opportunity to acquire the skills necessary to occupy it. By specifying the principles that should guide the construction of these policies, item II.5 of R122 indicates the importance of States "fully developing human capacities" (Ilo, 1964b) from, for example, vocational education, guidance and training; and take "necessary measures to help workers, including young people and other newcomers to the labour force, to find suitable and productive jobs and to adapt to the changing needs of the economy" (Ilo, 1964b).

This is a right related, above all, to the subsistence of workers and their families, but also to personal and professional satisfaction, the construction of a personal identity, social inclusion and the guarantee of other rights, such as health, for example. In this sense, it is one of the most fundamental human rights (Sarkin; Koenig, 2011), because work is a means to an end: human survival (Udombana, 2006).

It is observed that, as a social right, the right to work requires the adoption of policies by the State capable of providing the adequate infrastructure for it to be effectively guaranteed. This infrastructure, as evidenced in the international norms mentioned above, involves the promotion of the professional qualification of workers – including young people entering or about to enter the labor market – as a tool for the development of human capacities in order to meet the demand of the labor market for specific skills.

Professional qualification is, therefore, a strategy in promoting the right to work, although it is not the only one and even if it is seen, by authors such as Ford (2019), as an insufficient initiative given the advance of automation resulting from the digital revolution, and it is necessary to move towards the guarantee of a kind of basic income for all. Even so, it is understood that qualification is central, as it aims not only to qualify workers to perform more sophisticated work and escape automation, but, above all, to acquire the skills necessary to work in new occupations and/or in occupations transformed by technology – competence complementation effect (Ernst; Merola; Samaan, 2018) – thus overcoming the skills mismatches resulting from technological innovation.

The expression "mismatches of competences" (*Mismatch skills*[2]) is a generic expression – both because of the breadth of what is meant by maladjustment (*Mismatch*[3]), as well as by the multiplicity of meanings of competencies – and which may thus involve different types of incompatibilities between the demands of the labor market and the supply of labor.

According to Palmer (2017), although there is no single understanding in the literature, most international organizations categorize competencies into three major areas: (i) fundamental or basic competencies, such as literacy, basic knowledge of mathematical calculations and, more recently, digital literacy (Gilster, 1997); (ii) transferable, transversal, personal, non-cognitive or emotional skills, such as the ability to learn, solve problems, be communicative and adapt knowledge; and (iii) technical or vocational skills, associated with specific occupations and professions, such as the ability to use advanced computer programs, for example. (i) fundamental and (iii) technical skills are more objectively measurable from existing data, such as the number of literate people, the number of graduates, etc., while (ii) transferable skills are evaluated subjectively and not very systematized, such as the difficulty in measure how communicative workers are (Mcguinness; Pouliakas; Redmond, 2017).

Therefore, public policies and predictive strategies for mapping competencies end up having a greater concentration on the analysis of (i) fundamental and (iii) technical. However, the demand for transferable skills, as well as the rapid transformations, require an equally rapid adaptation in the fulfillment of skills, which makes the predictive mapping of what is being sought by the market increasingly complex (Ukces, 2014).

In addition to the different skills, the mismatches are also diverse. In other words, skills mismatches can be linked to: (1) vertical incompatibilities, measured in terms of under- or over-

[2] Mismatch of skills.
[3] Incompatibility.

education (workers who have fewer or more years of schooling than required), under- or over-qualification (workers who have less or more qualification than required), under- or over-training (workers with few or excess skills for a given occupation); (2) horizontal incompatibilities, linked to the field or areas of study of the workers being incompatible with the demand of the labor market; (3) skills gaps, signaling the absence of labor to fill a certain occupation; (4) scarcity or oversupply of skills, indicating high or low demand from the labor market in relation to certain skills; (5) obsolescence, in which skills previously used in a job are no longer needed or are less important (Mcguinness; Pouliakas; Redmond, 2017; Ilo, 2013; Cedefop, 2010).

In this sense, the challenge of guaranteeing the right to work does not only involve the promotion of professional qualification and consequent expansion of skills, but also includes the allocation of people with the right skills to the right jobs, thus promoting a balanced balance between the demands for skills in the labour market and the skills of workers (Cedefop, 2010).

This challenge has been increased with the advancement of 4.0 technologies, which have intensified the need to anticipate and predict the skills that are and will be needed in the future (OECD; Ilo, 2018). According to Abramovay, the concern with the innovations that mark the fourth industrial revolution is because they "require from workers skills for which only the minority among them is truly prepared. Hence the strong propensity for a kind of dualization of the labor market, divided between the few who carry out creative and well-paid activities and the mass that permanently borders on irrelevance" (Abramovay, 2021, p. 144).

According to the International Labour Organization, "technological advances – artificial intelligence, automation and robotics – will create new jobs, but those who lose their jobs in this transition may be the least prepared to take advantage of the new opportunities" (Ilo, 2019a). Thus, in an increasingly accelerated way, "today's skills will not be matched in tomorrow's jobs and the new skills acquired can quickly become obsolete" (Ilo, 2019a).

According to Schwab (2016), due to the disruptiveness and speed of technological changes of the fourth industrial revolution, the labor market will require a continuous acquisition of skills. Therefore, it becomes even more fundamental "the acquisition of skills for all workers at all stages of their working life, in order to fill/close existing and expected skills gaps, paying particular attention to the alignment of education and training systems with the needs of the labour market" (Ilo, 2019b).

In the midst of such challenges typical of the fourth industrial revolution, there are existing economic, social and technological inequalities, which can have different impacts on countries. As an example, according to the Ilo (2018), "Latin America is far behind in the

development of labor skills and competences, as shown by the results of international literacy tests and some indicators [...]". Thus, policies to overcome skills mismatches in Latin America must involve not only professional qualification specifically focused on 4.0 technologies, but also fundamental skills, such as literacy, for example. In this sense, the anticipation and prediction of competencies suggested by the Organization for Cooperation and Development (OECD) and ILO necessarily need to consider the different levels of development of countries and regions, at the risk of further accentuating existing inequalities.

In addition to 4.0 technologies, Ford (2019) indicates that they are accompanied by "fatal" trends (Ford, 2019, p. 59) in society and the economy, such as: the stagnation of wages; the decline in the share of labor in the national income and the decline in labor force participation; growth in unemployment, including for those with higher education; increase in forms of underemployment; and the financialization of the economy. As the author warns, to understand the fourth industrial revolution, it is necessary to consider these trends and not restrict ourselves only to technological discussions.

Added to the scenario presented are the effects of the Covid-19 pandemic on the labor market, such as the expansion of the digital economy, the need for digital skills, the adoption of remote work, and a greater economic impact in relation to people with low qualifications (Ilo; Itu, 2020). According to data from the Inter-American Development Bank (IDB), due to the pandemic, in about three months, Latin America underwent a digital transformation expected to take place in three years (IDB, 2020, p. 28). There was also a deepening of trends pointed out by Ford (2019), such as the increase in inequality and unemployment, for example.

The pandemic has thus accelerated trends already started from the fourth industrial revolution, reconfiguring professional and personal life (IDB, 2020) and demanding a faster and more assertive response to guarantee the right to work.

4 Technologies 4.0, the right to work and repercussions on the promotion of sustainable development from the 2030 Agenda

The "decade of action" (Kingo, 2020), Inaugurated in 2020, it began in the midst of an unfavorable and unforeseen pandemic scenario. A little more than five years have passed since the implementation of the 2030 Agenda in 2015, with less than ten years left for the Sustainable Development Goals (SDGs) to be achieved in the different regions of the planet (by the year 2030).

Considering the legacy of the Millennium Development Goals (MDGs)[4] – "the first global framework of development policies that contributed to guiding government action at the international, national and local levels for 15 years" (Unesco, 2015, p.4), between the years 2000 and 2015 – and seeking to make progress on the unachieved MDGs, the 2030 Agenda was created to serve as an action plan to guide States, companies, people, third sector organizations, among other subjects, in the promotion of sustainability in the different facets of development (Sachs, 2002) or, as expressed in the 2030 Agenda, "in its three economic, social and environmental dimensions in a balanced and integrated manner" (Un, 2015, p.2).

The 2030 Agenda thus established 17 SDGs, accompanied by 169 targets, linked to the various existing global challenges for the promotion of sustainable development for all (Un, 2014) in order to "leave no one behind" (Un, 2015, p.3), Seeking to equate global problems in the most diverse areas, including the right to work.

The promotion of the right to work involves different SDGs, with emphasis on the SDG 4, SDG 8 and SDG 9, which are focused on education, at work and in technology, respectively.

SDG No. 4 aims to "ensure inclusive, equitable and quality education, promote lifelong learning opportunities for all" (Un, 2015, p. 19), in addition to having goals that include: gender equality in the acquisition of skills; literacy; achievement of basic knowledge of mathematics and completion of primary and secondary education; care and infrastructure for school monitoring; expansion of scholarships; and teacher training. Among the goals linked to this SDG, the following deserve greater mention: the promotion of the right to work target 4.4, which foresees "by 2030, to substantially increase the number of young people and adults who have relevant skills, including technical and professional skills, for employment, decent work and entrepreneurship" (Un, 2015, p. 20); goal 4.b, according to which the number of scholarships "for higher education, including vocational training, information and communication technology, technical, engineering and scientific programs in developed and other developing countries, should be increased by 2020" (Un, 2015, p. 20); and goal 4.c, which aims to "by 2030, substantially increase the number of qualified teachers, including through international cooperation for teacher training, in developing countries, especially least developed countries and small island developing states" (Un, 2015, p.20).

[4] In the Millennium Declaration, signed in 2000, within the scope of the United Nations, eight goals (MDGs) were defined to be achieved by the year 2015, namely: eradicate extreme poverty and hunger; achieve universal primary education; promote gender equality and women's empowerment; reduce infant mortality; improving maternal health; fight HIV/AIDS, malaria and other diseases; ensure environmental sustainability; developing a global partnership for development.

According to Mcgrath, Alla-Mensah and Langthaler (2018), although the 2030 Agenda has advanced by emphasizing vocational training as an important cross-cutting element for development, at the same time, it is not clear about what skills are necessary to achieve the global transformation proposed by the 2030 Agenda itself, in addition to seeming to restrict education to formal processes, ignoring the non-formal possibility of acquiring skills and competencies that could be useful to achieve the SDGs.

SDG No. 8 aims to promote "sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all" (Un, 2015, p. 22), in addition to being based on goals for economic growth combined with the generation of jobs that are decent (ILO, 2012) and decoupled from environmental degradation, eradication of forced labour and child labour, strengthening of financial institutions and aid to trade.

Many of the goals of this SDG are linked – directly or indirectly – to the promotion of the right to work, with greater prominence of the following goals: 8.3, dedicated to the creation of "development-oriented policies that support productive activities, the generation of decent employment, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro activities, small and medium-sized enterprises, including through access to financial services" (Un, 2015, p.23); 8.5, which provides for "by 2030, achieving full and productive employment and decent work for all women and men, including young people and persons with disabilities, and achieving equal pay for work of equal value" (Un, 2015, p.23); 8.6 which aimed, "by 2020, to substantially reduce the proportion of young people without employment, education or training" (Un, 2015, p.22); 8.9 that aims, "by 2030, to design and implement policies to promote sustainable tourism, which generates jobs, promotes local culture and products" (Un, 2015, p. 23); and 8.b, according to which, by 2020, "a global strategy for youth employment and the implementation of the International Labour Organization's Global Employment Pact" should be developed (Un, 2015, p. 23).

SDG No. 8, by associating decent work, full employment, and economic growth, was the target of criticism, raising questions about whether to adopt a human-centered agenda, as proposed by the 2030 Agenda, or to adopt a market-oriented logic, since full employment and decent work are not necessarily promoted in an environment of economic growth (Frey; Macnaughton, 2016). Furthermore, the very expression "economic growth", used in the 2030 Agenda, does not cover other pillars of sustainable development, such as the social, environmental, and technological spheres, for example, leaving out several essential aspects for the promotion of human rights (Frey; Macnaughton, 2016).

SDG No. 9 focuses on "building resilient infrastructure, promoting inclusive and sustainable industrialization, and fostering innovation" (Un, 2015, p. 24), with goals dedicated to the development, modernization, and sustainability of infrastructure for all, scaling up inclusive industrialization, supporting small businesses, strengthening scientific research, technological development, and increasing access to technologies. Among the goals linked to this SDG, the following are directly relevant to the promotion of the right to work: target 9.2, which aims to "promote inclusive and sustainable industrialization and, by 2030, significantly increase the share of industry in employment and gross domestic product, in accordance with national circumstances, and double its share in the least developed countries 2015, p. 24); goal 9.5, according to which it is necessary, by 2030, to "strengthen scientific research, improve the technological capacities of industrial sectors in all countries, particularly in developing countries" (Un, 2015, p. 24) and to encourage "innovation, substantially increasing the number of research workers" (Un, 2015, p. 24); Target 9.C, which envisaged by 2020 "significantly increasing access to information and communication technologies and striving to do our utmost to provide universal and affordable access to the internet in the least developed countries".

Based on the analysis of SDG No. 9, the previously mentioned concern is reinforced that choices can be made by society so that the use of technology is sustainable and connects with other goals and concerns of the Agenda – such as the promotion of decent work opportunities and encouragement of professional qualification – without being reduced to technological determinism (Teixeira, 1998).

The integrated analysis of the three Sustainable Development Goals highlighted above – SDG No. 4, SDG No. 8 and SDG No. 9 – shows that the right to work permeates different parts of the 2030 Agenda and, in order to be guaranteed, it needs interconnected actions within the scope of guaranteeing the right to education in its various dimensions, such as basic education, continuing education, professional qualification, among others; elaboration of public policies that consider regional diversities and inequalities of access to work, deal with updated data on the labor market and aim to reduce informality; guarantee of access to technologies and connectivity, which has become a new human right (Ilo; Itu, 2020), as well as the promotion of digital literacy and the acquisition of skills to adapt to technological innovations.

To exemplify the importance of integrated action, we highlight the concern of Tawil (2016) on the need for a broader approach to the right to education, which, in order to be effective throughout people's lives, will need to be contemplated not only in educational legislation, but also in labor legislation, with the provision of training and continuing education

of workers during their working lives. In the same sense, Kroll, Warchold and Pradhan (2019) state that there are numerous points of synergy between the SDGs and that a transversal approach between them favors the overcoming of possible conflicts between them.

It is important to emphasize, in the wake of the pillars of sustainable development (Sachs, 2002), the ILO Declaration on Social Justice for Equitable Globalisation (2008) and SDG 8 that the right to work should be linked to decent work (Ilo, 2012), that enable fair working conditions, ensuring: a minimum wage to provide basic needs for workers and their families; equal pay between genders; health and safety at work; equal opportunity for professional promotion; rest, leisure and limitation of working hours, allowing the reconciliation between personal and professional life (Ilo, 2012). Such pillars, as provided for in Article 7 of the ICESCR (Un, 1966), aim to eradicate forced child labour and promote social security and social dialogue (Ilo, 2012) – the latter being a fundamental instrument for achieving the SDGs, as it allows the different social actors, based on their demands and interests, to be directly involved in the implementation of the 2030 Agenda (Faciroli; Fonseca, 2020).

In this sense, there is a two-way street for the implementation of the 2030 Agenda with regard to sustainable work: the promotion of the right to work must incorporate the notion of decent work, while decent work involves the guarantee of jobs, the search for full employment and the encouragement of formality.

5 Conclusion

Human work is constantly influenced by technologies, while technologies are also shaped by human work, and there is an even more marked interaction between work and technology in the world. *technological turning points*, such as the fourth industrial revolution. In this context, this article sought to analyze how the right to work can be impacted by 4.0 technologies and what is the repercussion for the implementation of the 2030 Agenda.

Technologies 4.0 have caused numerous transformations in the world of work, reviving discussions about the (present and) future of work, reigniting the debate about technology leading to the creation of new jobs or the mass destruction of labor occupations. Although past industrial revolutions did not materialize the skeptical prediction of the end of jobs, the fourth industrial revolution brings new concerns given the speed and depth of transformations in the world of work.

The promotion of the right to work – guaranteed as a human right by international law and domestic law and foreseen as a goal in the 2030 Agenda – has become an object of greater concern given the potential of automation in the fourth industrial revolution and the demand for new skills in the labor market.

In this sense, promoting the right to work and, consequently, achieving the goals related to it in the 2030 Agenda, involves the creation of policies to stimulate formalization and full employment combined with the professional qualification of workers, in order to acquire (new) skills required by the labor market.

Overcoming the different skills mismatches – vertical, horizontal, obsolescence, among others – includes the continued professional qualification of workers, in addition to the need to consider other essential elements (which are also goals of the 2030 Agenda): the need to pay attention to disparities and inequalities, whether regional, between countries, gender, class, race, among others; promoting access to technologies and digital connectivity; the strengthening of scientific research so that there is greater sustainability of 4.0 technologies, including with regard to the social dimension of sustainable development; and the professional qualification of teachers as a policy of potential multiplier, since the professional qualification of workers in general will only be possible if there are teachers who have the necessary skills to handle 4.0 technologies.

Thus, the importance of interdisciplinary and interconnected professional qualification policies is observed, which consider the demands required by the labor market and the difficulties of workers in meeting them, either due to the lack of access to technologies or the lack of basic skills, such as literacy, among other factors. In this sense, the social dialogue between these actors – public authorities, representatives of the productive sector, workers' representatives, civil society organizations and educational institutions – is an essential strategy for the elaboration of integrated and more effective policies to guarantee the right to work.

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