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A SKILL-BASED APPROACH TO LABOUR LAW IN THE EUROPEAN DIGITAL STRATEGY

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Tra gli obiettivi da conseguire nel periodo 2020-2030, la nuova “Bussola digitale” dell’UE ha dato maggiore attenzione al rafforzamento della connettività, della produzione di chip e dei servizi digitali pubblici e privati, nonché alla diffusione della tecnologia blockchain e dell’IA. All’interno di tale strategia hanno inoltre rivestito un ruolo centrale le misure di accrescimento delle competenze digitali della forza lavoro, essendo queste in grado di garantire una migliore transizione dinnanzi alle recenti trasformazioni socioeconomiche. Tuttavia, non tutti gli Stati Membri valorizzano ancora l’apprendimento permanente in modo adeguato nei rispettivi ordinamenti giuridici, ponendo così la necessità di interventi più decisi per contrastare le esternalità negative derivanti dalla digitalizzazione (es. analfabetismo informatico, disallineamento delle competenze). In tale prospettiva, l’adozione di un approccio al diritto del lavoro maggiormente basato sul ruolo delle competenze nelle politiche attive potrebbe garantire una più agevole transizione verso il nuovo contesto produttivo e organizzativo.

Among the objectives to be achieved in the period 2020-2030, the new EU Digital Compass has prioritized objectives such as the strengthening of connectivity, chip manufacturing, and public and private digital services, and the spread of blockchain technology and AI. In addition, measures to enhance the digital skills of the workforce have also played a central role in this strategy, given that they can ensure a better transition in the face of recent socio-economic transformations. However, not all Member States have adequately valorised lifelong learning in their respective legal frameworks, thus requiring decisive interventions to counter the negative externalities of digitisation (e.g., computer illiteracy, skills mismatch). In this perspective, the adoption of a more skills-based approach to labour law in active policies could ensure a smoother transition to the new productive and organisational context.

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[°] Double blind peer-reviewed paper.

1. Introduction

Over the last past decades, the so-called “digital transition” has been playing an increasingly central role among the main priorities of the European Union, especially regarding the development of the socioeconomic context and productive fabric. After all, the full implementation of this goal represents a significant opportunity not only to promote economic and employment growth¹, but also to assert a greater technological independence at the international level². In this regard, the pervasiveness of technology can be clearly seen in different frameworks, such as the social, economic, legal, and administrative ones; for instance, the recent waves of technological progress have considerably improved the efficiency of the organizational and productive models of work, resulting in the birth and spread of the “Fourth Industrial Revolution”³ and prompting an update of the former legal frameworks in accordance with the new potential implications⁴.

Therefore, digitalisation has necessarily become deeply intertwined with the main European actions, since it constitutes an essential element to pursue economic and employment growth, environmental sustainability, and social equality, promote cooperation between Member States, and increase competitiveness at the national and international level⁵. Such commitment from the European Commission can be specifically observed in the continuous development process of the information and communications technologies (ICT). Although ICT are not expressly mentioned in the provisions of the Treaty on the

¹ Regarding the link between technological progress and economic growth, see: EPICOCO, *Technological change and economic development: endogenous and exogenous fluctuations*, in *Working Papers of BETA*, 2018, 2 ss.

² Cfr. HOBBS (ed.), *Europe’s digital sovereignty: From rulemaker to superpower in the age of Us-China rivalry*, in *European Council on Foreign Relations essay collection property*, 2020.

³ As defined in: SCHWAB, *The Fourth Industrial Revolution*, New York, 2017, *passim*.

⁴ The recent technological advancements have also brought, *inter alia*, to some updates regarding the dispositions on remote controls of workers from employers. Indeed, such changes have considerably affected the effectiveness of the former legal provisions, paving the way for a new approach to privacy and personal information (e.g., EU Regulation 2016/679 on General Data Protection Regulation). On this point, see *ex multis*: COLAPIETRO - GIUBILEI, *Controlli difensivi e tutela dei dati del lavoratore: il nuovo punto della Cassazione*, in *Labour Law Issues*, 2021, 186 ss.; CALIFANO, *Tecnologie di controllo del lavoro, diritto alla riservatezza e orientamenti del Garante per la protezione dei dati personali*, in TULLINI (a cura di), *Controlli a distanza e tutela dei dati personali del lavoratore*, Torino, 2017, 165 ss.; OGRISEG, *Il Regolamento UE n. 2016/679 e la protezione dei dati personali nelle dinamiche giuslavoristiche: la tutela riservata al dipendente*, in *Labour Law Issues*, 2016, 27-64.

⁵ On this point, see: BUGHIN - LABAYE - WINDHAGEN - SMIT - MISCHKE - BRAGG, *Rome redux: new priorities for the European Union at 60*, in McKinsey Global Institute discussion paper, 2017, 5 ss.; BERNDT - MUENT - REVOLTELLA - BENDING - CALTHROP - DUNNETT - FITZPATRICK - LUNDQVIST - PIOVESAN - SCATASTA - STÖLTING - VÁLILA, *Restoring EU competitiveness*, European Investment Report, Luxembourg, 2016, 14 ss.

Functioning of the European Union (TFEU), these technologies are embedded within sectoral and horizontal policies (e.g., industrial, commercial, research and development, and educational fields), especially on account of the dispositions concerning technological development and research at the articles 179-190 of TFEU.

However, the interventions regarding the development of ICTs also require taking into account the negative externalities arising from the impact of digitalisation in social and economic terms. Among the critical factors to ensure a smooth digital transition, the enhancement and acquisition of skills can be seen as one of the most important to achieve⁶, given that a widespread misalignment of competences and digital illiteracy of the working-age population could hamper the overall effectiveness of the European Digital Strategy⁷. For this reason, it would appear necessary for European policy strategies to invest in the development of ICTs infrastructures concomitantly with interventions aimed at prompting a firmer interconnection between labour law⁸ provisions and measures to enhance the skills of the workforce.

2. The evolution of the European Digital Strategy over the years and its latest objectives

In this perspective, the European digital transition has experienced a remarkable evolution over the last decades, spacing from the strengthening of technological infrastructures and internet networks for better communications and connections alone to interventions aimed at building a comprehensive “digital single market”⁹ and improving the state of technological advancement of the socio-economic environment (e.g., computer literacy of the population, public and private digital services, legally recognised digital identity). In addition, it has also been involving a growing number of social actors and authorities, promoting comprehensive and coordinated measures.

⁶ On this topic, see: IMPICCIATORE, *La formazione per l'occupazione nel mercato del lavoro che cambia*, in *Dir. lav. mer.*, 2020, 603-622; SIMONCINI, *L'incidenza della rivoluzione digitale nella formazione dei lavoratori*, in *Lav. giur.*, 2018, 39 ss.; CIUCCIOVINO, *Le nuove questioni di regolazione del lavoro nell'industria 4.0 e nella gig economy: un problem framework per la riflessione*, in *Dir. rel. ind.*, 2018, 1059.

⁷ Cfr. MAGGI, *AI, automation and the Future of Work: The EU digital strategy, job polarisation and skill-biased technological change*, in *CSI Review*, 2022, 27-40.

⁸ Cfr. MAINARDI, *Rivoluzione digitale e diritto del lavoro*, in *Mass. giur. lav.*, 2020, 341-369.

⁹ The “digital single market” can be described as a unitary structure with no internal barriers to the spread of digital services and technologies that promotes investment in technological infrastructures and online commerce. Its broad legal basis can be observed at the articles 4, 26, 27, 114, and 115 of TFEU.

Thus, to better understand the overall European public actions concerning technological progress, the evolution of the European Digital Strategy and its most significant steps should be taken into account first. After all, such analysis would allow to observe the various challenges faced by the European Union and provide useful insights regarding the main institutional and non-institutional actors involved, the key-objectives pursued, the existing deficiencies, and the potential margins for improvement of the digital economy.

Among the first initiatives, it is worth mentioning the framework programmes ESPRIT and RACE¹⁰, which were undertaken between 1983 and 1988 to strengthen ICTs (e.g., telecommunications technologies, software, advanced microelectronics, information processing systems). Although they cannot be technically attributable to formal Community strategic actions, these interventions managed to promote the research and development of ICTs, as well as increasing the competitiveness of the European industrial sectors. Conversely, extensive strategic actions can be observed between 1987 and 1993, especially in the release of the Green Paper on “*the development of the common market for telecommunications services and equipment*” (COM(87) 290 of 30 June 1987) and the White Paper “*growth, competitiveness, employment*” (COM(93) 700 of 5 December 1993), which implemented comprehensive ICT strategies with a firmer stance on social and productive advancement¹¹. These papers paved the way for the creation of a “European Digital Single Market” by promoting the relevance of technologies as key-factors for growth and competitiveness.

Under the momentum of these actions, other initiatives to ensure a liberalisation process in the technological field have followed: for instance, the eEurope programme – organised in three phases (eEurope 2002, eEurope 2005 and i2010) – was born to create an “Information Society for All”¹² and involved a massive development of ICTs to strengthen the European economy, namely by reducing inequalities regarding digital advancement between Member States and focusing on competitiveness and sustainability. Among its objectives, the main ones included reducing the cost of internet tariffs, promoting the digital skills of the population, and strengthening the security of IT networks and digital public services.

¹⁰ On this point, see: ASSIMAKOPOULOS - PIEKKARI - MACDONALD, *ESPRIT: Europe's Response to US and Japanese Domination*, in COOPEY (ed.), *Information Technology Policy: An International History*, Oxford, 2004, 247 ss.; MYTELKA - DELAPIERRE, *The alliance strategies of European firms in the information technology industry and the role of Esprit*, in *Journal of Common Market Studies*, 1987, 231 ss.

¹¹ Cfr. OROFINO, *La multilevel “governance” delle comunicazioni elettroniche venti anni dopo il Framework 2002*, in *federalismi.it*, 2022, 692 ss.

¹² On this point, see: FABISCH, *An Ambitious Goal - eEurope for All*, in *International Journal of IT Standards and Standardization Research*, 2003, 57-61; BASLÉ - PÉNARD (eds.), *eEurope - La société européenne de l'information en 2010*, Paris, 2002.

In this regard, a significant change of pattern from the previous actions can be observed here. In particular, the eEurope strategy gradually attributed a greater relevance to the skills required for the digital transition by pursuing not only the fostering of Internet use by citizens and businesses and promotion of investments in the digital education of the European population, but also the definition of a regulatory framework suitable for e-commerce¹³.

Perhaps, one of the most important initiatives regarding the digital transition of the European Union can be seen in the Digital Agenda for Europe (COM(2010) 245 of 19 May 2010), which was introduced to ensure a smoother digitalisation process and designed as one of the fundamental pillars of Europe 2020 plan¹⁴. This latter can be described as an ambitious and long-term strategy to ensure an efficient and competitive socioeconomic system with high levels of employment and social cohesion through smart, sustainable, and inclusive growth models¹⁵. In particular, the Digital Agenda was aimed at strengthening ICT connectivity, stimulating investment in research and development, promoting the computer literacy of the population and the dissemination of e-government, and updating the regulatory framework in the light of the consolidation of the European Digital Single Market.

The realisation of such crucial objective has been pursued through the use of different legal instruments, involving directives, legislative proposals, regulations, and communications¹⁶. Among the various measures, it is worth noting two main interventions: the Digital Single Market Strategy for Europe (COM(2015) 192 of 6 May 2015) and the Digitising European Industry (DEI) initiative (COM(2016) 180 of 19 April 2016). Although they can be both depicted as comprehensive actions to pursue the strengthening of technological infrastructure and digital skills and achieve a sustainable and inclusive growth through the exploitation of digitalisation, they can be summarised as follow.

On one hand, the Digital Single Market Strategy for Europe involved key initiatives to promote the liberalisation and strengthening of e-commerce and communication infrastructures, the growth of consumer confidence in digital services, the launch of e-government, and the updating of data protection

¹³ After all, the establishment of a digital-friendly legal framework can indeed contribute to harness the potential benefits arising from the digital economy and, thus, ensure economic and employment growth of the European Union.

¹⁴ Europe 2020 was a strategic plan of investments in five priority areas (education, employment, research and development, social integration, and climate and energy sustainability) to foster recovery after the Great Financial Recession of 2008. On this point, see: POCHE, *Eu 2020. Social impact of the new form of European governance*, in *Etui Policy Brief*, 2010, 3 ss.; MARLIER - NATALI - VAN DAM (eds.), *Europe 2020: Towards a more social Eu?*, Brussels, 2011, 11 ss.

¹⁵ Cfr. BORELLI, *Le politiche del lavoro nazionali nell'ambito della strategia Europa 2020 e della governance economica europea*, in *Lav. dir.*, 2012, 465.

¹⁶ Cfr. CAGGIANO, *Il quadro normativo del mercato unico digitale*, in DAL POZZO (a cura di), *Il mercato unico digitale, dati personali e diritti fondamentali*, in *Eurojus.it*, 2020, 13-49.

legislation. Thus, the Digital Single Market Strategy has tried to lay the foundations in a perspective of sustainability and cohesion for a greater digitization of the social and productive fabric¹⁷. In particular, the main actions included the promotion of digital services for European businesses and consumers and the strengthening of e-commerce, which were pursued, *inter alia*, through the definition of a regulatory framework capable of maximizing the diffusion of technology. Moreover, it was aimed at removing all obstacles to access and use of online services by citizens and businesses (e.g., unjustified geo-blocking¹⁸), and renewing the European legal system to ensure stronger data protection and clear processing of personal information on the internet¹⁹.

On the other hand, Digitising European Industry (DEI) initiative²⁰ was conceived to promote the implementation of actions involving the digital transformation of companies and, ultimately, the achievement of greater industrial competitiveness. Such objective was mainly envisaged on account of the ICT sector's relevance and topicality, which employed over 6 million people and accounted for approximately 4% of the European GDP according to the Commission's Communication of 2016. In this regard, the European Commission has recommended to implement all necessary measures to ensure a smooth transition to the new scenario resulting from the digitalisation of the global market. In order to achieve that, the DEI Strategy was mainly organised on five pillars, which intended above all to facilitate an effective spread of the Industry 4.0 model: these pillars involved the creation of a common virtual platform of national initiatives for industrial digitalisation, the establishment of digital innovation hubs (DIH), the provision of a "digital-friendly" regulatory framework, the definition of partnerships and industrial platforms, and investments in digital upskilling for the European population. By doing so, the European Union aimed to trigger major financial investments in the digital sector, coordinating legislative interventions to promote industrial development and, thus, harness, the technological potential²¹.

¹⁷ After all, the promotion of the digital single market could not be achieved without the strengthening of rules for the protection of personal data aimed at reinforcing both online security and privacy of citizens.

¹⁸ Cfr. DUCH-BROWN - MARTENS, *The Welfare effects of lifting geoblocking restrictions in the EU Digital single Market*, in *JRC/IPTS Digital Economy Working Paper*, 2016, 4 ss.

¹⁹ Reg. (EU) 2016/679 of the European Parliament and the Council of 27 April 2016.

²⁰ Cfr. DE STREEL - HOCEPIED - LOGNOUL - ROSIC, *Contribution to Growth: European Digital Single Market. Delivering improved rights for European citizens and businesses*, Study for the Committee on the Internal Market and Consumer Protection, Luxembourg, 2019.

²¹ Cfr. EUROPEAN COMMISSION, *Digitising European Industry: Progress so far, 2 Years after the Launch*, Brussels, 2018.

In this perspective, the results achieved by the European Union surely demonstrate significant improvements in the digital transition²², which the Commission has been pursuing both with soft law and hard law approaches²³ over the years. However, the end of 2020 has marked not only the conclusion of the Digital Agenda's ten-year plan²⁴, but also the beginning of the new "Digital Compass" strategy that aims to further boost the digital transition by 2030. For this reason, the European Digital Strategy has been adjusted in accordance with the new challenges, such as the damages and inequalities related to the Covid-19 pandemic. Indeed, this latter has emphasised the importance of new technologies and the related actions to take, such as the promotion of artificial intelligence, the strengthening of cybersecurity, blockchain technology, and cloud systems, and major investments in upskilling processes. In this regard, the pandemic crisis has demonstrated how essential both the solidity of the digital infrastructure and the availability of adequate computer skills can be in the current socioeconomic context, given that the European Union intends to shape its recovery for the post-pandemic on such factors.

Thus, the announcement of the Digital Compass strategy for the definition of digitalisation priorities to be achieved by 2030²⁵ and the decision to allocate at least 20% of the funds for the post-pandemic recovery to the digital transition strategy are certainly important signals from the European Commission. In this regard, the new Digital Compass has adopted a human-centred and sustainable approach in order to achieve the empowerment of citizens and businesses. In fact, among the different pillars, it is worth noting the one about skills, which is based on the promotion of basic digital skills among the population (min. 80%) and the spread of ICT specialists (at least 20 million) by the end of 2030.

Indeed, such goals appear encouraging in terms of promotion of the employability of the working-age population, especially in the light of the previous five-year plan known as the "European Skills Agenda"²⁶ that was also based on a more skills-based approach the labour framework. In any case, it will be necessary to wait for future developments in order to better understand the direction taken with the policies for the decade 2020-2030, which among the main

²² An overview on the European social dialogue regarding digitalisation can be found in: PERUZZI, *Il dialogo sociale europeo di fronte alle sfide della digitalizzazione*, in *Dir. rel. ind.*, 2020, 1213-1219.

²³ On this point, see: MACIEJEWSKI - OZOLINA - FERGER - PIAGUET - APAP - DESOMER - GRONBECH - JORGENSEN - HARDT - LEFORT - MATIC - VANHOUCHE, *EU Mapping: Overview of Internal Market and Consumer Protection related legislation*, Brussels, 2015.

²⁴ Cfr. ŠIŠKOVÁ (ed.), *The European Union – What is Next? A Legal Analysis and the Political Visions on the Future of the Union*, Cologne, 2019.

²⁵ Cfr. Communication "Digital Compass: The European Way for the Digital Decade" (COM/2021/118 final) of 9 March 2021.

²⁶ On this point, see: SENATORI, *The European Framework Agreement on Digitalisation: a Whiter Shade of Pale?*, in *Italian Labour Law E-Journal*, 2020, 162 ss.

priorities currently target the promotion of European competitiveness and innovation, as well as the creation of new jobs and an overall improvement in the living conditions of the population.

3. European Public Action and digitalisation: the insights from the DESI Index

The targets set by the current strategies and the challenges posed by the pandemic crisis urge the European Union to identify new potential areas of development related to the digitalisation processes in order to better carry out the key-objectives of the new Digital Agenda 2030²⁷. After all, the latest changes have emphasised how essential it is to accelerate the digital transition by investing in AI, the interconnection of databases and blockchain networks, and the development of modern IT infrastructures, given that new and improved technologies are enabling factors capable of guaranteeing a stronger socioeconomic growth²⁸.

However, there are still critical issues regarding the overall digital strategy that need to be addressed, such as major gaps in the progresses between Member States with respect to human capital and digital technology integration. Thus, given the crucial importance of such factors, the link between technology and skills must be tackled first in order to better guide the new European Digital Strategy up to 2030.

In this respect, the Digital Economy and Society Index (DESI) – an indicator designed by the European Union to observe in detail the digitalisation process and its impact on the socioeconomic context of the Member States – is the most suitable instrument to identify such critical issues, since it monitors specific thematic areas and provides a detailed annual report about: connectivity, human capital, internet use, digital technology integration, and digital public services. According to the latest DESI report, both encouraging and negative signs can be highlighted, especially regarding the human capital area. In fact, although it is true that an increasing number of European citizens is now relying on internet services almost every day²⁹, there are still high rates of “computer illiteracy”, i.e., the lack of basic digital skills that allow individuals to use a computer or search and

²⁷ Cfr. EUROPEAN INVESTMENT BANK, *Digitalisation in Europe 2021-2022. Evidence from the EIB Investment Survey*, European Investment Bank report, Luxembourg, 2022.

²⁸ Regarding the growth models, both the Japanese “technological push” in the 1980s and US “flexibility, innovation and competitiveness” approach in the 2000s have been taken as benchmark models by the European Union over the years. That is because they provided useful insights to promote a rapid and prosperous economic growth. However, it is worth nothing that the European Union has been gradually focusing on sustainability and inclusiveness for a more cohesive development since 2010.

²⁹ According to the DESI (2021) report, 86% of European citizens now use the internet almost daily for personal or work reasons.

understand the information available online (42% of the population aged 16-74 years). Of course, it is also worth noting that digital literacy has been gradually growing over the last six years. In addition, such values are significantly different on the base of the socio-demographic context³⁰. Nonetheless, in average only 56-58% of European citizens actually have basic digital skills and the situation tends to differ according to the selected Member States: for instance, Bulgaria ranks the lowest in the human capital indicator due to its 29% of computer literacy, while the most advanced country (Finland) reaches around 76%.

In this regard, it is important to mention that the human capital indicator represents a core factor to consider in order to guarantee the correct implementation of the digitalisation in other areas. After all, for instance, significant levels of computer illiteracy could hinder the spread of e-government, resulting in a limited impact for digital public services by citizens³¹. Indeed, the lack of basic digital skills – a fundamental requirement to access the labour market both for low and medium skilled work profiles – inevitably contribute to exacerbate the problem of mismatches between labour supply and demand³².

In particular, major levels of computer illiteracy in the European population could increase both skill mismatch – namely the mismatch between the skills offered by workers and those required by companies³³ – and the impossibility of acquiring the desired professional figures in the current labour market³⁴. In this sense, such misalignments can become particularly problematic if the increasing use and interest in ICT personnel by businesses is not matched by an equal availability of specialized workers³⁵, given that it would inevitably hinder the

³⁰ The DESI report for 2021 highlights that the individuals without a basic level of digital skills are larger in the 55-74 age and the retired/inactive samples, respectively 67% and 72%. Conversely, younger categories are characterized by higher levels of computer literacy (87% for students, 84% individual with a high formal education, 80% for the population 16-24 years of age).

³¹ In this respect, the DESI report still depicts an encouraging overall scenario, since the percentage of people who use digital public services has grown from 57% to 67% in five years.

³² On this point: ILO, *Skills mismatch in Europe: Statistics brief*, Geneva, 2014.

³³ According to the previous DESI report, a growing relevance of ICT can be observed in the European productive fabric, since lots of small enterprises employ ICT specialised staff (15%), as well as medium-sized (42,5%) and large ones (75%).

³⁴ Such negative externalities are often the result of mismatches between the theoretical and practical knowledge gained by the workforce during the training period and what employers actually seek. On this point, see *ex plurimis*: BRUNELLO - WRUUCK, *Skill Shortages and Skill Mismatch in Europe: A Review of the Literature*, in *IZA Discussion Papers*, 2019, 3-26; CEDEFOP, *Insights into skill shortages and skill mismatch. Learning from Cedefop's European skills and jobs survey*, in *Cedefop reference series*, 2017, 12-17.

³⁵ According to the latest DESI report, a growing relevance of ICT workers can be observed in the European productive fabric, since 19% of EU enterprises employed such specialists.

European businesses' ability to adopt new technologies within organizational and production models³⁶.

Therefore, this misalignment of skills between labour supply and demand represents both a failure to harness the potential of digitalisation³⁷ and a considerable loss of efficiency in terms of the productivity of companies³⁸. After all, although the gradual implementation of the European digital transition has improved businesses' production and organizational models, it is equally true that the kind of tasks and competences required of the workforce has been currently evolving as well on account of digitalisation³⁹.

Thus, the need to ensure economic growth with an ethical and sustainable perspective requires the European Union to focus not only on the promotion of artificial intelligence, the strengthening of cybersecurity, and greater use of blockchain technology and cloud systems, but also on a further improvement of the digital skills of the population. After all, the European Pillar of Social Rights⁴⁰ itself attributed a remarkable relevance to the process of lifelong learning and acquisition of new competences, given that its first principle states: «everyone has the right to quality and inclusive education, training and life-long learning in order to maintain and acquire skills that enable them to participate fully in society and manage successfully transitions in the labour market». Indeed, although recent technological progress has helped to make production and organizational models of work increasingly efficient, it appears clear that digital progress tends to increase the demand for highly qualified workers and accelerate the process of obsolescence of knowledge and skills. For these reasons, the European Digital Strategy inevitably demands to give a renewed priority to upskilling and reskilling measures on account of their core relevance in the current scenario.

³⁶ In this regard, it should be highlighted that the European Union is currently at a disadvantage compared to the United States, mainly because of the structural barriers that slow down both investments in digitalisation and the adoption of new technologies by companies. Cfr. EUROPEAN INVESTMENT BANK, *Who is prepared for the new digital age? Evidence from the EIB Investment Survey*, European Investment Bank report, Luxembourg, 2020, *passim*.

³⁷ Cfr. VELCIU, *Job mismatch – effects on work productivity*, in *SEA - Practical Application of Science*, 2017, 395-398.

³⁸ The Boston Consulting Group described skills mismatch as a “hidden tax” on the efficiency and productivity that affects more than 1,3 billion people in OECD countries. Cfr. PUCKETT - BOUTENKO - HOTEIT - POLUNIN - PERAPECHKA - STEPANENKO - LOSHKAREVA - BIKKULOVA, *Fixing the Global Skills Mismatch*, Boston Consulting Group report, Boston, 2020.

³⁹ For instance, these changes can be also observed in the greater demand for high skilled profiles, namely workers with decision-making autonomy and technical and cognitive competences. On this point, see: BROLLO, *Tecnologie digitali e nuove professionalità*, in *Dir. rel. ind.*, 2019, 468-491; SALENTO, *Digitalizzazione delle imprese e trasformazione delle competenze. Quadro analitico e riscontri empirici*, in *Labor*, 2019, 135 ss.

⁴⁰ Cfr. GIUBBONI, *Oltre il Pilastro europeo dei diritti sociali. Per un nuovo riformismo sociale in Europa*, in BRONZINI (a cura di), *Verso un pilastro sociale europeo*, Roma, 2018, 16 ss.

In this respect, the new ten-year plan for the digital transition⁴¹ needs to be accompanied by the definition of a better legal framework for continuous training policies and, consequently, a firmer link between active labour market policies (ALMPs) and enhancement of skills⁴². In particular, such intervention should be pursued with a major attention to the whole working-age population in spite of the employment status. Indeed, achieving greater employability⁴³ would allow to guarantee smoother employment transitions and cope with the rapid changes in the labour market, thus countering the obsolescence of knowledge, the mismatch of skills, and, ultimately, the effect of disruptive innovation⁴⁴.

4. The importance of upskilling in the European Digital Strategy: coordinating the European public actions through Cedefop

In this sense, it appears clear that the digitalisation processes are making the world of work more complex on account of the new socio-economic and legal implications arising from technological progress, prompting labour law⁴⁵ to redraw its former legal dispositions concerning social security systems, working methods and times, and the exercise of the workers' rights over recent years. Among the various implications and new challenges, the definition of legal provisions aimed at strengthening upskilling actions within active labour market policies for the whole working-age population can be noted. After all, that is the reason why the European public action has gradually promoted the development of an upskilling and reskilling actions for the Member States to implement.

In this regard, some of them have already developed comprehensive interventions regarding employment transitions and lifelong learning, defining extensive provisions in their legal framework as well. For instance, such efforts

⁴¹ In particular, the new digital compass determines the objectives to be achieved by 2030 in the following thematic areas: data economy and digital taxation, connectivity and cybersecurity, digital sovereignty, artificial intelligence, digitalisation of justice and healthcare, digital services, education, and digital skills.

⁴² Cfr. D. GAROFALO, *Rivoluzione digitale e occupazione: politiche attive e passive*, in *Lav. giur.*, 2019, 329 ss.

⁴³ Despite the lack of a unique definition, such expression can be described as the ability to preserve a job position or to quickly obtain a new one on account of the professional status achieved. On this point, see: ROCCELLA, *Formazione, occupabilità, occupazione nell'Europa comunitaria*, in *Giorn. dir. lav. rel. ind.*, 2007, 187-241.

⁴⁴ Cfr. FALERI, *Voce Disruptive innovation*, in BORELLI - BRINO - FALERI - LAZZERONI - TEBANO - ZAPPALÀ, *Lavoro e tecnologie. Dizionario del diritto del lavoro che cambia*, Torino, 2022, 108-110; FILÌ - COSTANTINI (eds.) *Legal Issues in the Digital Economy. The Impact of Disruptive Technologies in the Labour Market*, Cambridge, 2019.

⁴⁵ Cfr. ICHINO, *Le conseguenze dell'innovazione tecnologica sul diritto del lavoro*, in *Riv. it. dir. lav.*, 2017, 525 ss.

can be observed in Spain⁴⁶, which implemented a vocational training reform in 2015 in order to assure a better cooperation between State and regional authorities in the management of resources for upskilling and reskilling (Act No. 30/2015). Other significant examples can be seen in France and its continuous training system⁴⁷, given that the *Compte Personnel de Formation* (CPF) represents a remarkable instrument for the continuous development⁴⁸. In particular, the disposition introduced by *Loi* No. 288/2014 can be depicted as a public funding mechanism to support lifelong learning for the whole working-age population (all individuals aged 16 and over)⁴⁹.

Indeed, compared to the *droit individuel à la formation* (DIF)⁵⁰ – namely a precursor of the CPF intended for employees in the public and private sectors – such system is addressed to all citizens regardless of employment status, thus ensuring the continuity of training process with a view to employment transitions. To be specific, after the subsequent reform by *Loi* No. 771/2018⁵¹, the *Compte Personnel de Formation* allows every beneficiary to accrue up to €500 of training credit each year (overall max. €5.000)⁵² on account of the annual number of working hours of the beneficiary. By doing so, France has introduced in its legal framework an “individual right to continuous training”⁵³ based on training credits recognized on the basis of citizenship, portable between different jobs, and eligible for capitalisation over time⁵⁴.

Undoubtedly, the French case constitutes a best practice model from which the European Union can get useful insights in order to promote upskilling and

⁴⁶ Cfr. BARROSO-HURTADO - PAŽUR - BELA RIBEIRO, *Negotiating “employability” in Europe: Insights from Spain, Croatia and Portugal*, in BENASSO - BOUILLET - NEVES - PARREIRA DO AMARAL (eds.), *Landscapes of Lifelong Learning Policies across Europe. Comparative Case Studies*, Cham, 2022, 165-190; GIL-JAURENA, *Lifelong Learning Policies and Higher Education in Europe and Spain*, in *Journal of Lifelong Learning Society*, 2015, 303-338.

⁴⁷ On this matter, see: MERLO, *Percorso di lettura sulla formazione continua in Francia*, in *Giorn. dir. lav. rel. ind.*, 2017, 623-632.

⁴⁸ Cfr. CASANO, *Ripensare i Fondi Interprofessionali per la formazione continua: uno sguardo ai progetti di riforma francesi*, in *Boll. ADAPT*, 2018, 1-3.

⁴⁹ Cfr. DUBAR, *La formation professionnelle continue*, Paris, 2015.

⁵⁰ On this topic: MAGGI-GERMAIN, *La formation professionnelle continue entre individualisation et personnalisation des droits des salariés*, in *Droit Social*, 2004, 485 ss.

⁵¹ Cfr. CHAUCHARD, *Toward the personalization of social rights?*, in *Revue française des affaires sociales*, 2018, 129-148.

⁵² Such amount is raised up to €800 of training credit annually (overall max. €8.000) for disadvantaged individuals with disabilities or low level of qualification.

⁵³ Cfr. VALENTI, *The individual right to continuous training of workers: an analysis of best practices in the international framework*, in *Labour Law Issues*, 2021, 72 ss.

⁵⁴ Such changes were also followed by the creation of a digital platform called “Mon Compte Formation”, which was aimed at promoting and facilitating the usage and fungibility of the CPF accounts. To be specific, the number of active CPF accounts increased up to 5.468.534 during the first months of 2018. Cfr. D’AGOSTINO - VACCARO, *Nuove tutele per i lavoratori: il diritto soggettivo alla formazione Francia e Italia a confronto*, in *Professionalità studi*, 2020, 137 ss.

reskilling in all Member States⁵⁵. In fact, despite its lack of binding power over education and employment, the European Union could resort to soft law approaches⁵⁶ in order to promote the “individual learning account” system⁵⁷ more broadly. For instance, the recent Council Recommendation of 16 June 2022 on individual learning accounts (2022/C 243/03) can be depicted as a perfect example of this strategy.

Indeed, although the transposition of the *Compte Personnel de Formation* to other European countries could be complicated on account of the different legal frameworks⁵⁸, the adoption of selected key elements from this model could bring to the definition of a common and comprehensive European individual learning model, thus increasing the opportunities for upskilling and reskilling pathways of the working-age population⁵⁹. In this perspective, it would be able not only to guide the national policies in designing efficient actions aimed to improve skills, but also to align Member States’ digital literacy levels and promote international competitiveness and mobility of workers in the European area.

In this regard, an important role is played by the European Centre for the Development of Vocational Training (Cedefop), namely the agency of the European Union in charge of deepening vocational education and training (VET) and promoting a coordinated cooperation between different public and private actors (e.g., policymakers, social partners). In particular, the institute is currently undertaking new efforts in order to provide consultancy for Member States, including, *inter alia*, country reviews (TCRs) on upskilling pathways for the 2021-2023 period. Such actions are aimed at verifying the correct implementation of the Council Recommendation of 19 December 2016 on “Upskilling Pathways: New Opportunities for Adults” (2016/C 484/01) and gain useful insights on skill development in order to align Member States’ strategies.

⁵⁵ Cfr. FERNANDES - KERNEIS, *Vers un droit individuel à la formation des adultes pour tous les européens*, Brussels, 2020, 58-70.

⁵⁶ Cfr. OECD, *Improving the Quality of Non-Formal Adult Learning: Learning from European Best Practices on Quality Assurance, Getting Skills Right*, Paris, 2021.

⁵⁷ On this topic, see: HARRINGTON - YAMASHITA, *Individual Learning Accounts: A Comparison of Implemented and Proposed Initiatives*, in *Adult Learning*, 2021; OECD, *Individual Learning Accounts: Panacea or Pandora's Box?*, Paris, 2019, 7.

⁵⁸ In particular, the traditional separation between subordinate work and self-employment has often generated different regulations and safeguards for workers on the basis of their employment status in many national legal frameworks.

⁵⁹ Cfr. CEDEFOP, *Empowering adults through upskilling and reskilling pathways. Volume 1: adult population with potential for upskilling and reskilling*, Luxembourg, 2020; CEDEFOP, *Empowering adults through upskilling and reskilling pathways. Volume 2: Cedefop analytical framework for developing coordinated and coherent approaches to upskilling pathways for low-skilled adults*, Luxembourg, 2020.

Among the latest thematic country reviews, it is worth highlighting the joint analysis of French and Italian upskilling pathways for low-skilled adults⁶⁰. In this case, Cedefop aims to verify if the individual policy frameworks of the two countries are suitable to ensure the professional development of low skilled adults, with particular attention to basic digital skills, literacy, and numeracy (EQF 3-4 competences), as well as pointing out which good practices concerning lifelong learning are the most suitable to be implemented both at the national and European level⁶¹.

Therefore, it appears clear that the European Union should continue the process of analysis and review of the different approaches adopted by Member States regarding lifelong learning, given that the coordination through Cedefop⁶² could make it easier to identify the key factors to address in order to develop comprehensive and systematic actions.

5. Conclusion

These coordinated consultancies are surely to be welcomed as additional steps in the right direction, especially in light of the new strategies and actions for the period 2020-2030. Above all, the new “European Skills Agenda for Sustainable Competitiveness, Social Equity and Resilience”⁶³ – which aims to ensure upskilling and reskilling actions up to 2025 by involving governments, businesses, and trade unions, and strengthening the importance of skills, competitiveness, and public and private investment in upskilling/reskilling⁶⁴ – can be noted. In particular, the European Commission’s efforts in the “*Pact for Skills*” initiative to foster a cooperative environment and common commitment between companies,

⁶⁰ Cedefop launched a review process on upskilling interventions in Member States for the 2021-2023 period, starting with France and Italy (source: <https://www.cedefop.europa.eu/en/news/cedefop-launches-reviews-upskilling-pathways-adults-france-and-italy>).

⁶¹ Cfr. CEDEFOP, *Annual report 2021*, Luxembourg, 2022, 24 ss.

⁶² Cfr. CEDEFOP, *Strengthening skills systems in times of transition. Insights from Cedefop’s 2022 European skills index*, in *Cedefop Policy Brief*, June 8, 2022.

⁶³ This initiative aims to take up the main objectives introduced by the European Skills Agenda of 2016, considering other recent strategies for the digital development of the socio-economic fabric as well.

⁶⁴ Among its twelve actions, a significant attention and relevance the role of the European public actions regarding upskilling and reskilling can be seen in the following key-actions: 1) EU support for strategic national upskilling; 2) Unlocking Member States’ and private investments in skills by improving the reference framework; 3) Initiatives concerning individual learning accounts; 4) New pact for skills.

workers, and local and regional authorities for the development of a model for lifelong learning initiatives is undoubtedly encouraging⁶⁵.

In this perspective, the European Union is currently relying on both soft law and hard law approaches to coordinate the national frameworks regarding digitalisation and lifelong learning in the employment framework. This can also be inferred, for instance, from the Digital Education Action Plan (2021-2027)⁶⁶ designed to adapt education and learning for the digital age, given that it aims to further consolidate the training offerings of education systems on the basis of labour market needs. After all, in the absence of such wide-ranging interventions to counter skill mismatch and shortages and, thus, adapt its labour law framework to the changing context, it wouldn't be possible to meet the objectives pursued by the Digital Compass, such as the increase of computer literacy in the European Union to 80% by 2030.

In conclusion, although different Member States have started promoting continuous training of the whole working-age population with a firmer stance during the last decade, there are still major challenges arising from the current transformation of the socioeconomic context that affects governments, employers, and workers. For these reasons, it will be necessary to constantly monitor the achievement of the targeted objectives and see how the 2020-2030 actions develop step by step. In this perspective, it is to be hoped that such strategy will be accompanied by a more widespread skills-based approach to labour law in terms of active labour market policies.

⁶⁵ In addition, such pact also relies on the creation of knowledge and networking hubs, which are considered an indispensable means of building a solid network for career guidance services.

⁶⁶ On this topic, see: ANNETTE, *A digital learning future*, in *Impact*, 2021, 4-5.