



Overview of the national strategies on work 4.0: a coherent analysis of the role of the social partners

STUDY



European Economic and Social Committee



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Study

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Abstract

The policy momentum on digital transformations and the future of work (FoW) is building and is resulting in recommendations at the EU level. In past innovation cycles, the active involvement of both social partners in updating standards and bargaining fair framework conditions have proven to deliver more inclusive results. However, in the post structural reform era, social dialogue seems weakened. Given the unprecedented scale and scope of digital change, policy action will be needed and a case for a tri-partite steering should be made. This study sets out to outline the different dimensions of the digital transformation on sectors and business models, and hence on the quantity and quality of work. Based on a TUAC member survey, peer-to-peer reviews and in-depth research, the study presents a typology of existing policy processes in Europe, the involvement of trade unions therein (or the lack thereof) and complementary social partner activities that often fill the gaps. The study features best practice examples and case studies on Germany, Austria, Italy, Spain, Sweden, Denmark and the UK. The findings show that policy discussions are uneven in terms of ambition, coordination and stakeholder consultations. In parallel, bi-lateral social partner and unilateral trade union activities are underway and need an enabling environment. Based on the results, suggestions are made on what could be done at the policy level to shape the FoW together with all stakeholders on board.

Key words: *digital transformation, digitalisation, digital economy, platforms, automation, Future of Work, jobs, trade union, social dialogue, just transition*

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Executive Summary

Policy discussions on digital transformations and the future of work (FoW) are well underway at the European and national level. Digitally enabled production and business models spread across most sectors at an unprecedented scale and might change the way how and where we work. This prompts the question whether adequate consultation mechanisms with social partners and an enabling environment for trade unions are in place. Without a doubt, there is a role for both to play from an economic and organisational perspective. At this formation stage of political thinking, it is important to identify best practices and gaps both regarding what needs to be done in terms of policy action and how to better engage in social dialogue.

This study therefore seeks to map out examples of government strategies, the role of social partners and specifically trade unions in them and their assessments thereof. It also describes how trade unions step in to support workers within and outside social partner agreements on employment transitions, training and other challenges resulting from digital disruptions. To understand policy and organisational needs in the short- and medium term, the study outlines the underlying dimensions and immediate job effects of digital change and concludes as to why social dialogue should be front and center in shaping such transformations.

The Impacts of Digital Transformations on the Future of Work

A lot of speculation surrounds an array of digitally enabled processes that might affect the quantity and quality of jobs. They might also substantively change industrial relations, social dialogue and the operational and representative functions of trade unions. In the last few years it seems that a new political momentum is building. It is hence all the more important to understand what truly is about to change.

The Digital Transformation, Economy & Industry 4.0

Digital transformations are built on the combined effects of digitisation and digitalisation at an unprecedented speed and scale. This is not at least due to an increased sophistication in applications based on big data, its processing and algorithmic use. Such dynamics are changing production, service delivery and consumption patterns. The digital transformation is a series of intertwined factors including technological convergence, the servicification and platformisation of economies.

Some of the most immediate effects can be seen in manufacturing prompted by the inception and use of Internet of Things (IoT), cyber-physical (CPS) and embedded systems, cognitive computing, 3D printing and big data. They result in distributed and decentralised production systems and control mechanisms. The premise of such integrated systems in theory is more efficiency through simulation, customisation and better working conditions (less routine-heavy tasks, working time and more safety). In policy circles this is being discussed under the label Industry 4.0 – which does not do justice to the wider application of digital technologies across sectors such as in transport or in surgical procedures. This becomes very clear when looking at the investment patters in IoT or the spread of advanced robotics.

As one of the driving forces behind digital transformation, the digital economy helms the creation and dissemination of digital products and services. It is based on cross-border, networked eco-systems. What it does to jobs – especially in the platform economy – is an important cross-dimension in FoW discussions, where trade unions – as illustrated in the study – attempt to alert policy makers and take unilateral actions to help workers in new non-standard forms of work.

Underlying dimensions & Job effects

Investment decisions, framework and regulatory conditions (or the lack thereof) will determine how sectors, organisational and value creation models transform. Unhinged, the digital transformation might result in widening social gaps. Process changes such as the servicification of production and customised service delivery naturally change work organisation and the allocation of capital. It might also lead to attempts to decrease labour costs – be it through lay-offs, outsourcing (amongst other to platforms) and off-shoring. Meanwhile online platform businesses emerge as powerful intermediaries without significant physical presence and employment footprint posing multiple challenges on data protection, tax collection and competition – with much less attention given to regulatory arbitrage surrounding labour standards.

On the employment side, three trends arise: automation, changing working conditions and online platform work. With predictions on automation potential of entire occupations or tasks varying from 47% to 9% depending on the methodology, more trust should be placed in social partners to identify patterns of change and bargain framework conditions to enable workers to keep their job or to transition into a new one of similar if not better quality.

As seen in previous innovation cycles, adoption – if managed well and agreed upon in technological agreements and other forms of social partner consultations – has led to safer and better workplaces. In the absence of ethical, safety, privacy and occupational standards on advanced robotics, AI, IoT and Big Data, we observe that some firms introduce these technologies and systems without much or no prior consultation. However, in sectors with established social dialogue, new agreements on data or the introduction of new machines gradually emerge. At the national level, social partners and governments also start or need to start discussing the standards mentioned above as well as provisions on financing job transitions, (potentially reduced) working time and training needs.

Finally, the rise of online platform work is changing labour markets. It puts labour standards and employment relationships into question and contributes to the already high levels of non-standard work. Yet, the number of workers concerned is hard to measure, rendering a regulatory response even more difficult. It can be mapped out however which sectors are more concerned. It can also be regrouped in at least, on demand and crowd work – necessitating different responses within Digital Agendas or FoW frameworks.

What role for social dialogue and workers' voice in shaping the 4.0 trajectory?

Core trade union functions, industrial relations and social dialogue can become key pillars of an inclusive digital transformation. The European Pillar of Social Rights¹ reaffirmed consultation rights on economic, social and employment policies, the right to and support for collective bargaining, and the autonomy and need for capacity building of social partners.

The level and effectiveness of social dialogue varies across countries depending on the underlying systems, representativeness of one or both social partners and the effects of policies that encourage or hamper such structures. Globalisation and technological change further challenge the systems and the rise of cross-border, data-driven business operations renders policy enforcement and hence social dialogue more difficult.

Empirical evidence presented in this study shows that strong labour market institutions and trade unions lead to higher productivity, decent work and less inequality. Factually, sector level bargaining becomes crucial to identify tailored solutions and to set standards that are to be respected. In the same vein, technological agreements between social partners have shown a positive link between innovation and bargaining in the past.

Formal forums for discussions, tri-partite agreements and the facilitation and promotion of worker organisation are not sufficiently underway – yet, some good practices exist.

Policy initiatives and trade union involvement

When mapping policy initiatives concerning the nexus between digitalisation, the digital economy and the FoW, it can be observed that on the one hand, governments and stakeholders are building new strategies around 'digitalisation', while tackling most FoW aspects within existing frameworks. Most new frameworks or proposals to amend existing regulation came about in the last 3-4 years in Europe and many are still in their planning or consolidation phases. There are also cross-country differences in policy discussions as such, since Eastern Europe for now has seemingly less industrial or digital strategies but several are under preparation.

Case studies (Germany, Austria, Italy, Spain, Sweden, Denmark and the UK) confirm that policy formation on these issues varies in scope and political weight. Several issues addressed are overlapping as they are handled by different Ministries. Only some initiatives are commissioned/coordinated by the Head of Government. Some include investment commitments (into infrastructure, regional clusters, training etc.), some are platforms or consultation processes that encourage debate with different stakeholders but have yet to lead to recommendations (at least) or concrete policies (at best). Few however involve decisions on new legislation or changes to existing frameworks.

Employment issues (with notable exceptions) are either dealt with through reforms of labour codes and in discussions around reforming social protection and security, education and training systems. Equally, on non-standard forms of work propelled by online platforms, competition or local authorities, and courts are put in the driving seat. Similarly, while discussions on data privacy,

¹ https://ec.europa.eu/commission/sites/beta-political/files/social-summit-european-pillar-social-rights-booklet_en.pdf

protection and ownership are advancing – there is not enough emphasis on workers’ data, aside from a more vivid debate on mobile work, which relates to it but is not the same. Overall, it can be said that the current policy landscape at the national and international level on digital transformation and FoW is still developing.

The TUAC survey results show, substantial differences in the way consultations with social partners took place. Trade unions – if at all – were involved mostly after business and employer organisations and to a lesser extent in shaping Digital Agendas and Innovation strategies compared to Industry 4.0 and FoW discussions.

Trade Union Approaches to Employment Transitions and the Platform Economy

Trade unions have been helping other industrial revolutions in the past and should co-lead on strategies for a just transition for those workers affected by technological change. Several best practices also show trade unions are key partners in the governance and delivery of adult training. The study evokes examples of trade unions as direct providers (UnionLearn in the UK), of tri-partite agreements on greater funding (e.g. Denmark) and of tri-partite national training bodies (e.g. Austria).

The set-up of tri-partite transition funds, anticipation of new occupational tasks and strong social protection systems are considered as very effective according to trade union survey responses. The set-up or strengthening of bodies such as Sector Councils and the facilitation of collective worker representation through trade unions at all levels can help the delivery. As the study illustrates existing systems like the social partners’ coordinated Swedish Job Security Councils might serve as a model built on high levels of employment protection and collective bargaining.

And while bi-lateral social dialogue and collective agreements at sectoral and firm level are not a substitute for including social partners in national policy discussions or for tri-partite nation- or sector wide agreements, they for now seem to fill in the gaps. Several joint declarations at the European level by sector display that common challenges and aspirations for digital change exist, with the most concrete agreements being on training, data use and telework. Several company-level agreements were made on digital transformation in production, working time (see IG Metall in 2018), workers data protection and for the first time in e-commerce (see IndustriAll/ Asos). All of the examples display the need for governments to take these social partner driven initiatives to the national or regional level.

In terms of trade union unilateral actions, means and scope vary widely. Some can be seen as a continuation of the trade union tradition to raise awareness and organise in growing sectors, some might be seen as a result of policy inaction and regulatory arbitrage, or both. The identified trade union actions can be regrouped as follows: organising and bargaining (e.g. Amazon workers councils); achieving regulatory change (e.g. right to unionise self-employed workers); legal action and campaigning (e.g. restoring labour rights, minimum pay or challenging the license to operate for on-demand platforms); delivering evidence & trade union narratives (e.g. reports on conditions of gig work or platforms for idea exchanges on sector transformation). Finally, many workers lack information sources on new technologies or legal and labour rights in digital work. In this realm, several trade union confederations start to create web platforms to fill in such gaps.

Lessons for the future scope of social dialogue

In regard to social partner involvement in future policy frameworks, this study shows that inputs from trade unions in devising the right steps and bargaining the right conditions towards organisational change should be more valorised and mainstreamed across policy silos. Importantly, social dialogue and collective bargaining need to be strengthened not weakened to support inclusive, job-rich growth. Trade union and social partners' involvement and direct contributions to insurance and transition funds and training systems need to be encouraged. There are several options to keep in mind and from a policy viewpoint to support:

- Direct involvement of trade unions in digitalisation, industrial, employment and related policy frameworks
- Collective bargaining agreements at all levels to ensure quality jobs and decent wages
- Freedom of association and workers' voice (also in the digital economy)
- Ensuring data privacy and protection, as well as appropriate levels of surveillance on the job (off- and online)
- Updating OHS standards for new technologies, algorithms and new materials
- Co-creating ethical and organisational standards on the development and use of AI
- Collectively agreeing on transition frameworks and insurance schemes
- Designing, overseeing and co-financing training programmes and workplace innovation
- Co-fund trade-union led exchange platforms, career guidance and e-training to workers.

Equally important is to address the challenges trade unions are facing in delivering the above objectives which range from restrictions on unionisation and the decentralisation of collective bargaining, at times insufficient levels of tripartite structures and engagement at the national policy level, to regulatory challenges arising from the cross-border, non-jurisdiction bound operations in the digital economy. The bottom line is that there is evidence for the positive contributions of trade unions to inclusive growth. So, while the technologies and business models might be new, the political priority in Europe needs to remain quality job creation, a level playing field and responsible business conduct

Study

1. Introduction

International policy discussions on digital transformations and the future of work (FoW) are well underway and will soon result in recommendations at the EU level with multiple opinions issued and consultations in place, at the G20 and G7, the OECD and not at least at the ILO, where three trade union commissioners contribute to the FoW centenary initiative. Across the board, trade unions are consulted and input actively.

But what happens at the national level in Europe? Policy makers and social partners need to form their positions and jointly formulate next steps on digital transformations that seem to already affect most economic sectors at an unprecedented scale. More disruptions – if not well anticipated and managed – can be expected in the mid-term. The more so it is important to discuss and support the creation of new quality employment and sustainable growth. As of now, policy discussions and understanding is forming.

This study will focus on identifying examples for national strategies and approaches linked to digital transformations and/ or the FoW, the role of social partners and specifically trade unions in them and their assessments thereof. It will also highlight other trade union activities within and outside social partner frameworks on employment transitions, training and other challenges resulting from digital disruptions and the digital economy. In doing so, the study outlines the underlying dimensions and immediate job effects of digital transformations. It illustrates what role social dialogue and trade unions could and should play from an economic and organisational perspective.

To understand the current policy landscape better, a typology of different initiatives is attempted, followed by selected case studies with a focus on trade union participation and viewpoints on industry 4.0, digital agendas, FoW debates and training policies. Finally, this study provides recommendations on what could be done at the policy level to shape the FoW and how to support trade union involvement and why.

1.1 Scope and methodology

The study provides an overview of underlying trends leading to policy, regulatory and organisational changes coming from the fast-paced digitalisation of European economies. It outlines existing trade union strategies and tools and discusses how these can contribute in shaping economic and employment outcomes for the FoW. To illustrate if sufficient consultation mechanisms and an enabling environment for trade union activities is in place, this study provides an overview of current policy incentives and discusses selected examples in case studies by evaluating them against trade union participation and reflection of the labour movements' priorities. It ends with a short assessment on the current state of play and recommendations to enable both trade union activities and a just transition towards digital change.

The focus of the study and the case examples provided are only on EU member states and due to a lack of information or of policy actions does not feature all EU28 members, specifically from Eastern

Europe. The study focusses on the national and sector level and does not discuss policies at the EU level. In discussing the FoW, the study restricts itself to the effects triggered by digitalisation and the digital economy and leaves out other important aspects such as the transition to a low-carbon economy, migration, demographic change and globalisation. Moreover, broader economic and labour market trends are not discussed in-depth to allow for a micro-view on the topic by taking on an organisational and public policy perspective.

The research was conducted through an online literature review, specifically on key terms “work 4.0”, “industry 4.0”, “innovation strategies”, “digitalisation strategies” and complemented by the evaluation of key institutional and academic reports. Secondly, the TUAC created and administered a member survey to gain insights on trade union activities and involvement in policy discussions². The results were analysed and supplemented with further research, phone and face-to-face interviews with respondents and fact-checks on the case studies through peer-reviews.

2. The Impacts of Digital Transformations on the Future of Work

Discussions on the Future of Work (FoW) have gained prominence in the past few years resulting in policy debates and actions not at least due to an accelerating digital transformation and its multiple effects on labour markets and economies. Hence, FoW discussions often fall under the label ‘Work 4.0’ as a reference to the 4th industrial revolution. While this study focusses on digitalisation, it is important to flag that the FoW equally relates to demographic shifts, the transition to a low-carbon economy, trade and globalisation and that all these megatrends are intrinsically linked. To enable a better understanding as to why social dialogue should be front and center in shaping such transformations, this chapter briefly describes key trends and identifies the underlying dynamics affecting labour markets including technological deployment and new business models arising from the digital economy.

2.1 Core Concepts

2.1.1 Digital Transformation

Digital transformations are built on the combined effects of digitisation (conversion of analogue data and processes into digital formats) and digitalisation (the deployment of digital technologies and data that alters existing processes and/ or results in new business models). The new wave of technological change often referred to as the 4th Industrial Revolution differentiates itself through unprecedented speed and scale. It might affect employment structures, change consumption patterns and prompt new regulatory needs on an unprecedented level. The McKinsey Global Institute (2017) differentiates the impact of the digital transformation on: ‘(1) *assets, including infrastructure, connected machines, data, and data platforms*; (2) *operations, including processes, payments and business models, and*

² The online survey had been sent via the general TUAC mailing list and the dedicated digital economy list on 29 September 2017 with a 2.5 month deadline.

customer and supply chain interactions; and (3) the workforce, including worker use of digital tools, digitally skilled workers, and new digital jobs and roles³.

Due to a faster diffusion compared to previous innovation cycles, we observe greater disruptions across economic sectors enabled, amongst other, by high-speed broadband and mobile Internet networks, big data and the Internet of Things (IoT) with decisive advances in recent years. It is important to understand that digital technologies and systems are built on and function in convergence with one another. The accelerated speed of diffusion and increased sophistication in application are due to the rise of big data and its processing and algorithmic use (see Table 1).

Table 1 Key digital technologies and systems

| | |
|-------------------------------------|---|
| 3D printing | Pre-programmed three-dimensional printing of objects and components (see also: additive manufacturing) |
| Advanced Robotics | Running on computer systems, sensors and algorithms, allowing for more precision, autonomy and predictive maintenance |
| Artificial Intelligence (AI) | Machine-learning and operating systems emulating human activity and autonomous decision-making driven by big data and machine-to-machine communications |
| Big Data | Systems processing and analysing large data volumes |
| Blockchain | Decentralised and shared ledger that records and enables transactions (e.g. crypto-currencies, increasingly physical assets) without an intermediary |
| Cloud computing | Geographically independent storage of large data volumes on web servers |
| ICT | Information and Communication Technologies on which ICT infrastructure, services and products are stored, processed and transferred |
| Internet of Things (IoT) | Sensors/ networks interconnecting physical and virtual objects based on interoperable ICTs |

ICTs can be considered as the backbone of digital transformation. While major digital divides in-between countries (a large part of the world’s population still has no access to broadband coverage) and within countries (rural areas, income, age, etc.), transnational and distributed internet use, mobile devices and basic software and hardware applications have been evolving and are in use since

³ <https://www.mckinsey.com/global-themes/employment-and-growth/technology-jobs-and-the-future-of-work>

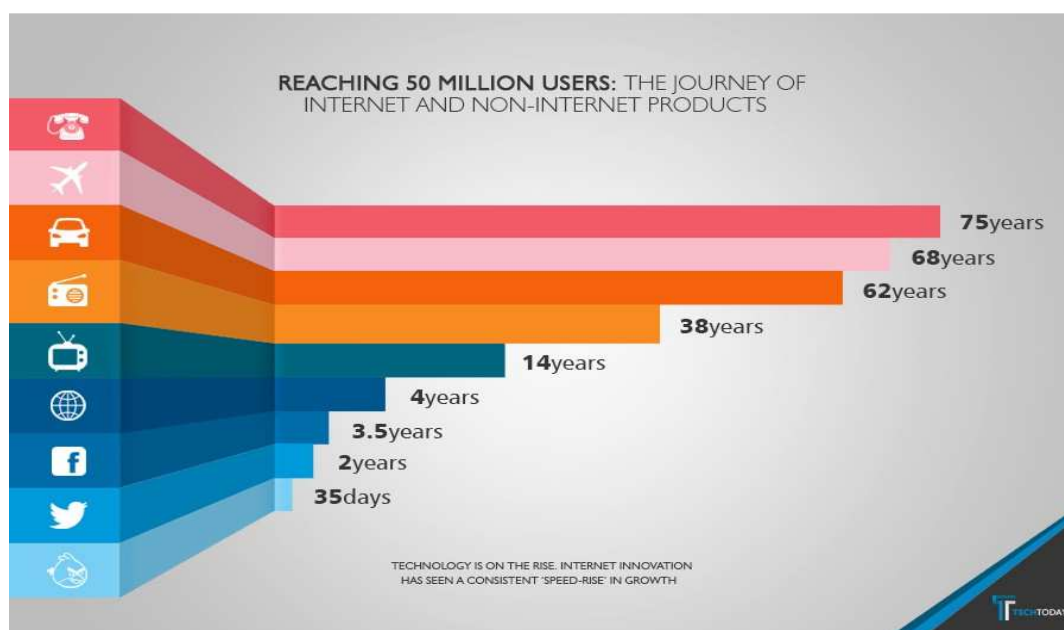
decades. Their spread and value has been increasing with data as the connecting tissue. Adding to this is a second tier marked by technologies that are now in increasingly wider use including cloud computing, big data, more advanced robotics and IoT. The latter for example saw an exponential growth in investments and applications such as supply chain and asset management (led by transport, manufacturing and followed by the banking and automotive sector). IoT investment forecasts are numerous and vary substantially – however, all predict substantive hikes in coming years⁴. Next in line, yet not as advanced for mainstream adoption, are blockchain technologies (see Bitcoin) and AI. It should be noted that leapfrogging of AI despite a certain hype surrounding it is not in reach, applications in coming years will remain narrow meaning not equating human intelligence.

Such considerations and an understanding of the interoperability between these technologies are important to keep in mind. Also, the relationship of all of these applications with green technologies, nano- and new materials is crucial to investigate.

2.1.2 Digital Economy

As one of the driving forces behind digital transformation, the digital economy helms the creation and dissemination of digital products and services far beyond the ICT sector. It is based on cross-border, networked eco-systems that enable business models and interactions across borders. The digital economy is built on an increased mobility of intangibles, users and business operations; large data flows; and multi-channel business models. As an example of the fast diffusion of digital economy companies, it took Facebook and Twitter only 3.5 and 2 years respectively to reach 50 million users (see Figure 1)⁵.

Figure 1 Growth of digital economy companies



⁴ <https://www.forbes.com/sites/louiscolumbus/2017/12/10/2017-roundup-of-internet-of-things-forecasts/#7944f4ad1480>

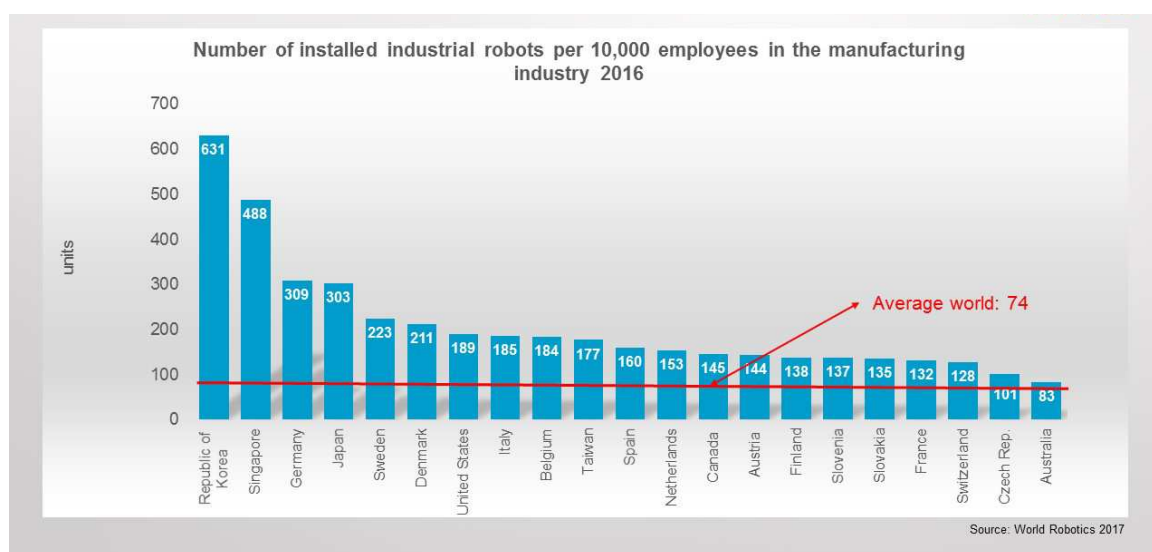
⁵ <https://medium.com/techtoday/reaching-50-million-users-the-journey-of-internet-and-non-internet-products-7a531d36f4ea>

2.1.3 Industry 4.0

Industry 4.0 concerns the transformation of manufacturing through the inception and use of Internet of Things (IoT), cyber-physical (CPS) and embedded systems, cognitive computing, 3D printing and big data. They result in distributed and decentralised systems and control mechanisms often operating in convergence with one another⁶. The premise of such integrated systems in theory is more efficiency through simulation, customisation and better working conditions (less routine-heavy tasks, working time and more safety).

The spread of advanced robotics is not only tied to manufacturing however as demonstrated by its use, amongst other, in surgical procedures: in 2016, 750,000 operations were performed implicating robots⁷. The main reasons for this enhanced deployment are decreasing costs and better performance of ICT control systems. According to new data, worldwide 74 robots on average are in use per 10.000 workers with 99 robots in Europe. The highest adoption rates are still in Korea, Singapore and Japan, however Germany is catching up, while Sweden and Denmark are ahead of the United States; Spain, Italy, France are increasing investments, so are Slovenia, Slovakia and the Czech Republic, the UK is below the European density average (see Figure 2)⁸:

Figure 2 Robot density per worker



2.2 Underlying dimensions

Digital transformation is driven by technological diffusion and convergence but also by investment decisions, framework and regulatory conditions (or the lack thereof). It results in different outcomes such as Industry 4.0 (as described above) or increases in e-commerce. As illustrated by Bukht and

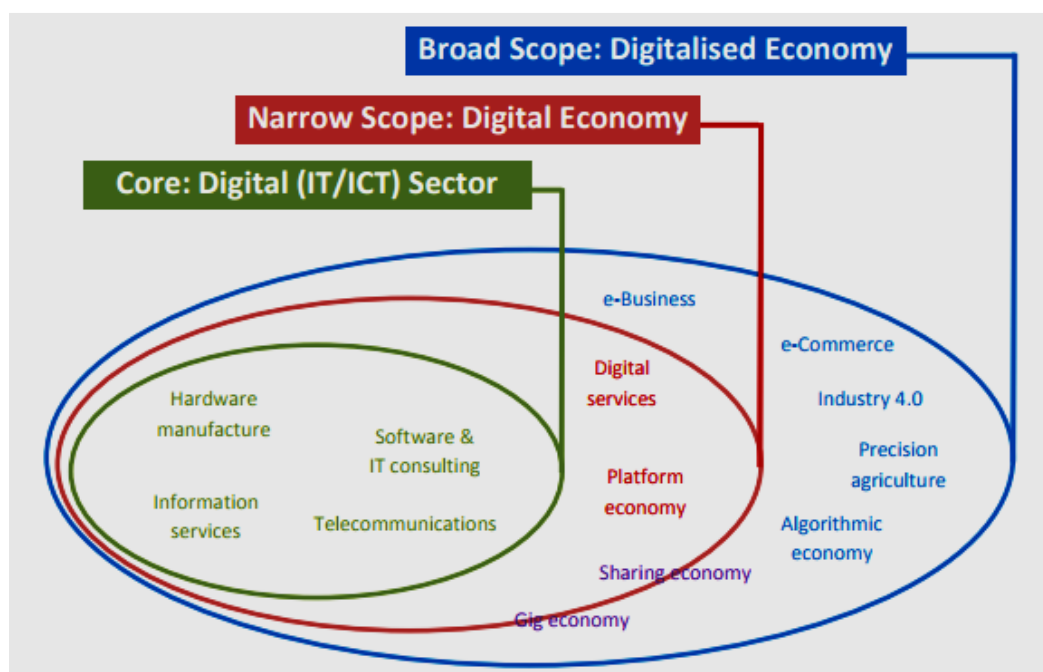
⁶ p. 973, https://ac.els-cdn.com/S235197891730728X/1-s2.0-S235197891730728X-main.pdf?_tid=spdf-5a74fce4-65cc-4f4c-b20d-dece9456775e&acdnat=1519646231_23b7d22c8f8ab02778ae5c9c2009aada

⁷ <https://www.economist.com/news/science-and-technology/21731378-surgeons-will-soon-have-more-helping-mechanical-hands-new-surgical-robots-are>

⁸ International Federation of Robotics (2017), World Robotics 2017: <https://ifr.org/ifr-press-releases/news/robot-density-rises-globally>

Heeks to understand the transformation and its link to the FoW, the underlying layers, namely the driving forces of the digital economy (the leading businesses and new business models) and the core foundations of the ICT sector need to be taken into account (see Figure 3)⁹.

Figure 3 Dimensions of the Digital Transformation



When looking at the ‘broad scope’, there are at least four explanatory factors to be considered: the growth of the service sector, changing organisational and value creation models, and the impact of platform businesses:

First, the service sector outpaced manufacturing: “two-thirds of all jobs created by new firms in 2014 [were in the service sector in OECD countries],..., in most economies new industrial firms contributed less than 15% of jobs created. Moreover, between 2008 and 2014 employment in manufacturing decreased in all but two OECD countries: Luxembourg and Germany.”¹⁰

Second, while the recent waves of adoption might be driven by technologies, their diffusion is based upon regulatory standards and organisational decisions such as de-centralising production, focussing increasingly on customised service provision and speeding up delivery. Process changes naturally change work organisation and the allocation of capital (see Figure 4)¹¹.

⁹ Bukht & Heeks (2017), p. 13.

¹⁰ OECD (2017), *Entrepreneurship at a Glance 2017*, p. 7

¹¹ Santos, C., Mehrsai, A., Barros, C., Araujo, M. & E. Ares (2017), p. 976

Figure 4 Organisational and operational changes in production



Third, digital products know no degradation. They can be repackaged, tailored and versioned. Data analytics and real-time interactions with contractors and customers as well as capabilities to customise products and services lead to a servicification of production and growing pressures on profit margins to add and deliver value faster across sectors. This alters occupational tasks. It might also lead to attempts to decrease labour costs – be it through lay-offs, outsourcing (amongst other to platforms) and off-shoring.

Fourth, online platform businesses are emerging as powerful intermediaries in the digital economy. Their business models are built on network effects and massive data collection. By scaling without mass, there are only a few main firms operating globally without significant physical presence and employment footprint. This creates new regulatory challenges for private data protection, tax collection, trade rules and, when one looks at how high their market value and concentration is, competition. According to UNCTAD, most digital multi-national companies are headquartered in a handful of countries and mostly in the United States in 2015¹².

Certainly, platforms bear significant innovation potential, enabling global exchange of information, crowdsourcing and funding, and thus indirectly employment creation. The key challenge is to foster such benefits, while addressing issues arising from market concentration and data control, and regulatory arbitrage committed by some when it comes to labour standards, tax avoidance and evasion, price discrimination and local rules. It is also important to consider the potential of these companies to shape digital transformations (inter alia through their own research labs and private R&D) and their ability to move faster than policy standard setting.

¹² UNCTAD (2017), p. 164

2.3 Job effects

Three trends have been shaping the world of work – with or without technological change – for years: increasing polarisation, intensification and individualisation of employment. They all contribute further to increasing income inequalities. The digital transformation can be steered towards decreasing these trends. Unhinged – it might contribute to them. As of now, there are three issues that deserve immediate policy and social partners' attention: automation, changing working conditions and online platform work (also known as the sharing, collaborative or gig economy).

2.3.1 Automation

The automation of processes might replace some occupational functions and lead to job losses if not managed ex-ante and in social dialogue. Automation can be understood as any organisational and operational changes that decrease or eliminate human inputs into production or service delivery. It is a sector-wide phenomenon – affecting manufacturing and routine-heavy occupations likely more, but also pointing to major changes in agriculture, the banking or transport sectors – due to a diverse use of digital applications from robotics to algorithms.

Several predictions considering the automation potential of task- or occupational content have been made – all pointing to a higher degree. They use different methodologies and vary in geographical scope. The Oxford study by Frey and Osborne (2013) triggered an array of follow-up analysis and policy attention claiming that 47% of all US jobs are potentially automatable in the next 10 to 20 years by looking at occupational characteristics¹³. Another approach was taken by the World Economic Forum (WEF) using an employer survey resulting in a prediction of 5.1 million jobs lost in the next 5 years (from 2016 on)¹⁴. Other studies, namely by McKinsey¹⁵ and the OECD¹⁶ applied a more granular task-based approach and came up with 26% (46 countries analysed) and 9% (21 countries) respectively for a time scale of 10-15 years. Both studies also estimate how many jobs would be transformed but not necessarily eliminated with only half of the involved tasks considered automatable, resulting in 42% and 35% respectively.

Since, the OECD revised its numbers and now estimates that 14% of jobs are at a high risk of automation and 31% of jobs will be subjected to significant change in the next 15-20 years. The data, based on the PIAAC survey (2012), marks a departure from initial OECD estimates by replicating the Frey and Osborne methodology using task-based information at the individual level and by doing so, covers a broader sample of workers including those who do not use computers at work which were excluded from the previous study (see Figure 6)¹⁷.

¹³ Frey, C. B. & M. Osborne (2013)

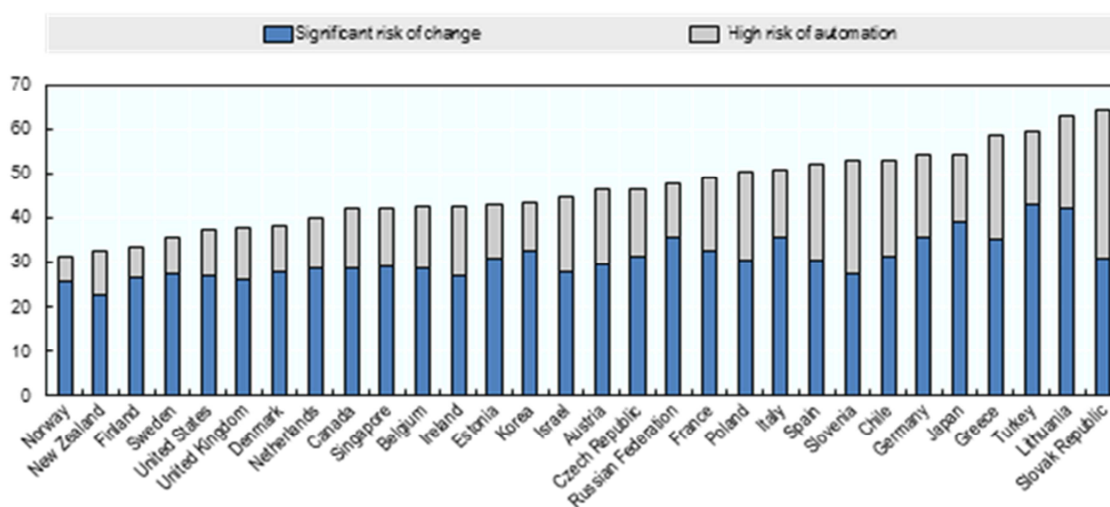
¹⁴ World Economic Forum (2016), "The Future of Jobs report", p. 13

¹⁵ McKinsey Global Institute (2017), "A Future that Works: Automation, Employment, and Productivity"

¹⁶ Melanie, A., T. Gregory & Ulrich Zierahn (2016)

¹⁷ Nedelkoska L. and G. Quintini (2018), "Automation, Skills Use and Training", OECD Social, Employment and Migration Working Paper N. 202.

Figure 5 Jobs at high and significant risk of automation



A lot of these studies showcase what occupations might see a job decline and discuss what skills and training would be needed. Most point to a strong demand for higher-skilled workers and to an erosion of middle-skilled, middle-income jobs – in other words, more job polarisation. While lifelong learning approaches and fostering the employability of workers is important, it is equally important to identify where job creation potential lies, how workers can either keep their job or transition into another one as some studies do. The role of labour market institutions and collective agreements is almost never considered but should.

2.3.2 Changing working conditions

As discussed, the deployment of new technologies alters organisational structures and thus, working conditions. As seen in previous innovation cycles, adoption – if managed well and agreed upon in technological agreements and other forms of social partner consultations – has led to safer and better workplaces. In the absence of ethical, safety, privacy and occupational standards on advanced robotics, AI, IoT and Big Data, some firms introduce the technologies without much or no prior consultation. Only if risks arise or lay-offs are considered, discussions are more likely to take place. However, in companies and sectors with established social dialogue, new agreements on data or the introduction of new machines gradually emerge. At the national level, social partners and governments also start or need to start discussing the standards mentioned above as well as provisions on financing job transitions, (potentially reduced) working time and training needs.

There are at least three building blocks that deserve attention: occupational health and safety standards and their observance when introducing new types of technologies and materials; working time provisions for ICT enabled mobile work, possible reduction and flexibility of working hours to counter the intensification trend but also consider the need for some face-to-face communications; set criteria on the treatment of data generated on-the-job and through new surveillances systems. All three of them need to be enacted on to prevent shifting control to the manager or a platform - especially when it comes to the use of data and algorithmic surveillance tools that continuously direct and

measure performance. Instead, the appropriate use of worker generated data coupled with the goal to enable safety and a work-life balance needs to be ensured.

2.3.3 Online platforms work

The rise of online platform work is changing labour markets. Given the difficulty to measure the number of firms (as contractors) and workers engaged (and the time spent) on different types of platforms, it is hard to estimate how many people and which tasks are concerned. There is an ongoing debate as to whether a platform job can be considered full- or part-time employment or if most people engage on them only to ‘top up’ their income or in the event of un- and underemployment¹⁸. It can be mapped out however which sectors are concerned and which platforms operate in which geographical areas. Platform work is also distinct and can be regrouped in at least, on demand and crowd work as illustrated below (see Figure 7)¹⁹:

Figure 6 On-demand vs. crowd work

| | On-demand jobs | Crowd work |
|---|--|---|
| Description | Traditional, often physical and location-based work facilitated through mobile applications or web platforms that often set the terms of service (including prices and fees) for both the consumers and workers. | Tasks that are performed online across borders through web platforms. |
| Examples of Work/Tasks | Driving, cleaning, care or repair work, delivery services, clerical work. | Website development, graphic design, ghost writing, translation, photo tagging. |
| Examples of Platform Economy Firms | Uber, Lyft, Care.com, Handy, Deliveroo, TaskRabbit. | UpWork, Crowdfunder, Amazon Mechanical Turk, Crowdsourcing, 99Designs. |

While not within the scope of this study, the emerging concerns about job quality and income security related to platform work matter in the discussions on Digital Agendas or FoW frameworks (see for example: Greenhouse (2016)²⁰). Without going into further detail, online platform business models in many cases pose two broad sets of problems: they put labour standards and employment relationships into question and contribute to the already high levels of non-standard work²¹. Some of the new triangular relationships are pretty much resembling agency work. What is important here is to understand that many business models use regulatory loopholes to engage workers as independent contractors while imposing conditions, monitoring and collecting their data, setting and surging prices, etc. without consultations making those workers dependent and bringing them in direct or virtual competition for tasks which might result in bad ratings or non-payment. This type of regulatory arbitrage creates precedents.

¹⁸ <https://www.jpmorganchase.com/corporate/institute/report-online-platform-economy.htm>

¹⁹ <http://justjobsnetwork.org/assessing-the-social-dimension-of-the-digital-economy/>

²⁰ <http://prospect.org/article/demand-and-demanding-their-rights>

²¹ Eurofound (2017), Aspects of non-standard employment in Europe

Going forward it is important to consider:

- what constitutes an employment relationship and what the role of the employer is
- how to support workers in such new forms of non-standard work
- how to address potential social security, tax and training deficits
- what standards on minimum pay, the autonomy, data protection and ranking portability of workers are needed
- how to ensure the respect for labour standards and rights (including the right of freedom of association and to join a trade union) and responsible business conduct of platform businesses.

In conclusion, what all three of the described trends might lead to is what Ilsøe (2017) aptly describes as the double challenge of ‘functional flexibility’ (propelled by the destruction of old and creation of new tasks) and ‘numerical flexibility’ (non-standard employment; work without jobs) that would be put upon workers individually if safeguards and social dialogue are not activated²².

3. What role for social dialogue and workers’ voice in shaping the 4.0 trajectory?

“An industrial relations system based on social dialogue is the cornerstone of the competitive social market economy that inspires the European social model.”

European Commission (2015)²³

3.1 Established trade union functions

The pace of digital transformation and the regulatory, and employment quality challenges arising call for comprehensive policy responses. Industrial relations and social dialogue can become key pillars in this. For that to happen, the role of social partners and trade unions needs to be strengthened at all levels and across policy dimensions. To enhance the impact of trade unions in this new world of work, it is important to understand the parameters behind their contributions to inclusive growth.

Industrial relations and social dialogue are part of the EU’s acquis, including in Article 28 of the Charter of Fundamental Rights of the European Union (2000). Recently, the European Pillar of Social Rights²⁴ reaffirmed consultation rights on economic, social and employment policies, the right to and support for collective bargaining, and the autonomy and need for capacity building of social partners.

This study understands industrial relations and social dialogue as a democratic right and economic means of social partners (employer, industry and workers’ representative bodies) to collectively negotiate, discuss and exchange information at all levels (firm, sectoral, regional, national and supra-national) in tri-partite settings with governments and bilaterally amongst each other. The level and effectiveness of social dialogue varies across countries depending on the underlying systems,

²² Ilsøe, A. (2017). The digitalisation of service work – social partner responses in Denmark, Sweden and Germany, p. 336

²³ European Commission (2015). Industrial Relations in Europe 2014, p. 9

²⁴ https://ec.europa.eu/commission/sites/beta-political/files/social-summit-european-pillar-social-rights-booklet_en.pdf

representativeness of one or both social partners and the effects of policies that encourage or hamper such structures. Globalisation and technological change further challenge the systems and the rise of cross-border, data-driven business operations renders regulation, policy enforcement and hence social dialogue more difficult.

Faced with fast-paced transformations and restructuring needs established social dialogue structures are challenged and called to task at the same time. As Kilhoffer, Lenaerts and Beblavý outline in their paper on the platform economy, social dialogue has essential functions including²⁵:

- Resolving conflict of interest in the employment relationship
- Balancing the employer's power in setting employment conditions including wages
- Safeguarding standards and protections so that labour does not become a commodity
- Ensuring collective bargaining and employee representation, their rights and a due process in dispute resolution.

The right to bargain collectively to negotiate wages, working time, sick pay, benefits and other working conditions – if the right framework conditions are in place – delivers inclusive outcomes, when addressing the many facets of digital change. The capacity of trade unions to act depends on union density, bargaining coverage and, intrinsically tied to it, the national system. The level of bargaining varies substantively across Europe with multi-employer bargaining systems on the one hand and firm-level bargaining on the other.

No matter the system, a structurally induced weakening of social dialogue and collective bargaining will put workers on an unequal footing vis-à-vis their employers, and trade unions vis-à-vis business and employer organisations. Especially, in weaker social dialogue systems and in the absence of regulations, it can lead to harmful social effects. For example, if businesses in the online platform economy are not scrutinised against existing labour standards and criteria determining the employment relationship, while competition law impedes the right to organise and bargain for independent contractors, there are policy choices to make.

3.2 The relevance of social dialogue in a digitalised world

When it comes to the FoW, collective bargaining and national social dialogue can result in appropriate public policies, standards, wage levels and training systems – and create transitional frameworks in the face of digital disruption. The involvement of social partners in strategic policy planning is imperative when striving for balanced economic and labour market outcomes and creating trust for political outcomes. The creation of formal forums for discussions, tri-partite agreements and the facilitation and promotion of worker organisation are the way forward. Wide-spread coverage of collective agreements and their implementation are deciding factors for successful transitions in innovation cycles.

²⁵ Kilhoffer, Z., Lenaerts, K. & M. Beblavý (2017)

Sector level bargaining becomes crucial to identify tailored solutions and to set standards that are to be respected. Digital technologies affect both the manufacturing and the service sector, yet in a very different way in terms of levels of adoption and functionalities. Hence, changes to occupational tasks, investment and training needs also differ.

There is an economic case for collective agreements in ensuring fairer outcomes and higher productivity. Decades of research have proven the positive role of coordinated bargaining and strong labour market institutions on economic performance. This is now also acknowledged by the OECD that policies such as i) minimum wages (both in terms of hourly real minimum wage and the minimum relative to average wages of full-time workers); ii) employment protection legislation (strictness of employment protection for both individual and collective dismissals); iii) trade union density and; iv) coordination in wage setting have the intended consequence of reducing wage dispersion and hence overall inequality²⁶. Another OECD publication confirmed that its decentralisation elevates income inequality²⁷. It further states – and this is to retain when discussing digital diffusion – that “*if the link between wages and productivity is broken, it becomes more difficult for resources to be allocated efficiently both across industries and across firms within industries*”²⁸.

When it comes to the platform economy and regulating new non-standard forms of work (NSFW), the ILO confirms that “*gaps or grey areas in the law that have provided fertile ground for the development of non-standard work arrangements [...] have resulted from the decline of collective bargaining in countries where collective agreements had previously been the dominant form of regulation.*”²⁹ It calls on to re-enforce bargaining and to “*ensure that all workers, regardless of their contractual arrangement, have access to freedom of association and collective bargaining rights. Improving enforcement is also essential.*”³⁰ When companies refuse to partake in social dialogue, create more non-standard work and commit regulatory arbitrage, trade unions have to push governments to step in, and apply or adapt existing regulations.

In the same vein, technological agreements between social partners have shown a positive link between innovation and bargaining during in the past and “*it is particularly during the early planning stage that trade unions can play a constructive role by trying to ensure that workers’ jobs as well as their health and safety will not be jeopardised by the new technology. Trade unions could be enabled to do so if they and management negotiated a New Technology Agreement laid down the terms of reference and procedures for their participation in the investment decisions*”³¹.

Trade unions are contributing to effective organisational models and workers’ skills and use complementary to public or private investments in new technologies and production models. It is also

²⁶ Bridging the Gap: Inclusive Growth 2017 Update Report, p. 32

²⁷ OECD Science, Technology and Industry Policy Paper, No. 39. The Great Divergence(s), pp. 11-12

²⁸ idem, p. 39

²⁹ ILO (2016), Non-standard employment around the world: Understanding challenges, shaping prospects, p. xxi

³⁰ Idem, p. xxiv

³¹ http://www.opensaldru.uct.ac.za/bitstream/handle/11090/317/1984_maree_ccp122.pdf?sequence=1

uncontested that high OHS standards and frequent labour inspections result in a better allocation of capital and more output per worker³² both of which are normally set in collective agreements. They will be needed to assess, manage and oversee new security and health risks with the introduction of new technologies or materials.

As new business models and the use of Big Data or sensors lead to more control over the workforce, to create more balance, workers' representatives and board members could jointly decide on the introduction of new technologies, the training and security and data protection standards.

In parallel, international or national harmonised standards on new digital technologies such as AI need to be developed in a multi-stakeholder setting. Up until now, discussions took place in company-led partnerships or commissions. These discuss technological, security and ethical aspects. However, work related aspects are treated in an abstract way in terms of either automation potential or new skills needs. Governments (see the Japanese approach to AI) and international organisations including the OECD are now starting to develop principles³³. Trade unions need to be involved to bring in a human-centered, organisational perspective to such debates.

In sum, collective bargaining and tri-partite policy discussions create more accountable and balanced frameworks for actions, while the involvement of trade unions in shaping technological diffusion is essential to ensure an inclusive innovation pathway.

3.3 Policy initiatives on digitalisation and the future of work

When mapping out policy initiatives concerning the nexus between digitalisation, the digital economy and the FoW, it can be observed that on the one hand, governments and stakeholders are building new strategies around 'digitalisation', while tackling most FoW aspects within existing frameworks. Most new frameworks or proposals to amend existing regulation came about in the last 3-4 years in Europe and many are still in their planning or consolidation phases. Trade unions – if at all – were involved mostly after business and employer organisations. At the national level, recent policy incentives in this realm can be regrouped as follows:

- **Digital agendas**
Covering connectivity, data privacy and protection, entrepreneurship, digital diffusion, investments in digital skills and e-government
Examples: the French 'Transition Numerique', Digital Belgium
- **Industry and innovation strategies**
Mostly focused on modernising manufacturing – often both on digital and renewable technologies, investing in R&D, training and regional clusters
Examples: (see Figure 8)³⁴
- **Future of work or work 4.0 discussions**

³² <https://www.ipa-involve.com/Handlers/Download.ashx?IDMF=e0209cd6-05d5-414a-ac22-c1d61af403f7>

³³ <http://www.oecd.org/going-digital/ai-intelligent-machines-smart-policies/>

³⁴ <https://ec.europa.eu/futurium/en/content/digitising-european-industry-catalogue-initiatives>

Tying technological, but often also the transition to low-carbon economies, demographic change and migration, to labour market transformations, social protection and training needs
Examples: German work 4.0 white paper, ILO FoW Commission

- **Skills and Training policies**

Discussing or adapting the design, financing and governance of education and training systems to new skills needs

Examples: Ireland's National Skills Strategy 2025, the French Personal Activity Account

There are also ongoing discussions on online platforms mostly in the form of consultations and committees on their effects on competition, regulation and labour markets. Often such discussions take place within digital agendas or in employment and labour ministries, as well as in exchange with competition authorities – less so as stand-alone initiatives.

Figure 7 Mapping of Industry 4.0 initiatives



In broad terms, Eastern Europe for now has seemingly less industrial or digital strategies but several are under preparation³⁵. This calls for more research to provide an overview on the EU28 as a whole.

At first glance, national strategies vary in their scope and political weight. Several issues addressed in the strategies are overlapping as they are handled by different Ministries. Some initiatives however encompass several Ministers or are commissioned/ coordinated by the Head of Government – in

³⁵ <https://ec.europa.eu/futurium/en/content/digitising-european-industry-catalogue-initiatives>

Europe this is the case for Austria, Luxembourg, and the Slovak Republic on digital strategies. Some are roadmaps or strategies that include investment commitments (into infrastructure, regional clusters, training etc.), some are platforms or consultation processes that encourage debate with different stakeholders but have yet to lead to recommendations (at least) or concrete policies (at best). Some processes involve decisions on new legislation or changes to existing frameworks, others are executive strategies financed through a Ministerial budget and/ or through public-private partnerships.

It is important to consider that especially digital strategies often do not take account of employment issues, aside from skills development. However, the OECD's Digital Economy Outlook (DEO) survey shows that out of *“seventeen of the 35 countries listed new labour laws, regulations or social partners' agreements related to new forms of work enabled by digital technologies that they have developed or are currently developing. Among the specific new measures implemented or under discussion in those countries, new types of workers' status and contracts were mentioned the most frequently”*³⁶.

The TUAC survey results show that of the eight EU country responses from trade unions, six said that they were consulted on key strategies, while two were not consulted on all of them and one was not consulted at all, while employer or business organisations were. As will be described in the next section, however, there are some substantial differences in the way consultations took place. To illustrate this, it provides case studies on union involvement (or lack thereof) in national strategies, bi-lateral incentives between social partners and a brief overview of unilateral trade union activities.

4. Trade union involvement in national strategies and social partner activities

4.1 Germany

4.1.1 Work 4.0

The German Federal Ministry for Labour and Social Affairs launched a multi-stakeholder consultation process including both social partners that resulted in a White Paper on work 4.0 in November 2016³⁷. In its reaction upon its release, the German Trade Union Confederation (DGB)³⁸ acknowledged that the right priorities for the FoW were identified in regard to enabling labour mobility, providing workers' training and strengthening co-determination. Prior to that trade unions commented on a Green Paper as the basis for the 18-month long discussions towards the final outcome. The main concern of the DGB are related to the fact that the White Paper only lays the foundations for a joint policy understanding but does not automatically lead to policy action. As an example, it promotes the idea of personal employment accounts that would aim to enhance vocational mobility irrespective of operational demands. This and a right of vocational training did not come into effect thus far. Therefore, the German labour movement called for concrete reforms that lead to a

³⁶ OECD (2017), OECD Digital Economy Outlook 2017, p. 83

³⁷ www.bmas.de/EN/Services/Publications/a883-white-paper.html

³⁸ <http://www.dgb.de/presse/++co++2c8d66a4-b615-11e6-b75d-525400e5a74a>

strengthening of collective bargaining, provisions for employee data protection and rights to training and modern working time arrangements.

The work 4.0 paper opened up the debate around the right level of work flexibility and the need for work-life balance. The DGB reiterated its positions on the intensification of work that, as they suggest, should be regulated through a new statutory framework and collective agreements on psychological stress and working time autonomy. In this respect, the White Paper considers a so-called “Working Time Choice Act” with yet to be determined proposals on individual flexibility and an exemption clause in the working time legislation for collective bargaining agreements on longer working hours and cuts of periods of recreation. The DGB strictly refused this proposal since it would put additional pressure on individual employees. In contrast to this proposal, the agreement of *IG Metall* and *Gesammetall* on reduced working times in February 2018 has shown that there is an economic case for variable working times depending on the sector to be agreed on via collective bargaining without softening the legal protection of the employees.

Overall, the paper itself strived towards a compromise between the employers’ push for greater flexibility and less regulation, and the DGB’s demands for a flexibility model based on workers’ rights, co-determination and an expansion of collective bargaining to new forms of work (including online platform jobs). The result is a broad consensus with less policy proposals than expected. For now, there is a tangible gap between the social dialogue that shaped the paper and the actual political processes. So far there is no virtual progress on any of the proposals.

Nevertheless, the relevance of the dialogue process is that it was the first on such a scale and with multi-stakeholder engagement. It gained considerable attention in policy discussions outside of Germany, propelled by its G20 Presidency in 2017. From a trade union perspective, it underlined the need to strengthen collective bargaining and social dialogue in such debates.

In terms of policy coherence, the White Paper was supposed to feed into the Digital Agenda discussions that concern a broader range of policies³⁹. Amongst other, the Digital Agenda resulted in a White Paper on the regulation of digital platforms of the Ministry of Economic Affairs and Energy but in doing so did not reflect issues around work at all.

4.1.2 Platform Industry 4.0

The German Federal Ministry for Economic Affairs and Energy created a Platform on Industry 4.0 (ongoing)⁴⁰. As in the previous example, the process implicates various stakeholders – including trade unions (represented through *IG Metall*), participating in some of the working groups and specifically on ‘work, education and training’ and in the so-called overarching ‘strategy group’ together with business, government and academic representatives.

³⁹ <https://www.bmwi.de/Redaktion/EN/Artikel/Digital-World/digital-agenda.html>

⁴⁰ <http://www.plattform-i40.de/I40/Navigation/EN/ThePlatform/PlattformIndustrie40/plattform-industrie-40.html>

The platform itself claims that with “250 participants from more than 100 organisations, *Plattform Industrie 4.0* is the largest and most diverse Industrie 4.0 network worldwide”. As described below, the platform now established partnerships with similar structures in France and Italy. While it aims to provide a holistic discussion on digital transformations in manufacturing, trade unions are not on an equal footing with other stakeholders. They have been asked to join later and are not involved as much in the remaining working groups that are conceived under the premise of shaping technological change and business productivity. Having said that, in comparison discussions on effects on employment are fleshed out more than in most other industry, innovation or digital agenda processes that focus predominantly on the technological and investment aspects towards establishing smart factories. It should be noted at the same time that this is a platform – not a policy framework (for now).

To add on, the Ministry also created the ‘Partnership on the Future of Industry’ (*Bündnis „Zukunft der Industrie“*)⁴¹ again focussing on digital transformations. The DGB is represented through their member organisations IG Metall, IG BCE, IG BAU und NGG. It is independent from the Industry 4.0 platform, despite several overlaps in representation, and has a long-term vision to strengthen the industrial sector. Another parallel process is the *Digital Work Platform* initiated by the Labour Ministry as a two year project co-chaired by IG Metall falling under the IT Summit (the annual forum of the Economy Ministry)⁴². This process resulted in recommendations to the Summit on regulatory needs related to the digitalisation of work⁴³.

4.2 Austria

4.2.1 Industry 4.0 platform

Austria followed a similar approach with an Industry 4.0 platform⁴⁴ that includes both social partners and was founded in 2015. While the German counterpart might have served as an example, in this case affiliates of the Austrian Trade Union Federation (ÖGB) were founding members alongside the Ministry for Transport, Innovation and Technology, business and academia. The Federation of Austrian Industries, companies such as Siemens, Microsoft, IBM and the [Austrian Federal Chamber of Labour \(AK\)](#) participate alongside the [Austrian Trade Union for Production Workers](#) and the [Union of Private Sector Employees, Graphical Workers and Journalists](#) (GPA-djp) in the general discussions and various working groups.

In its mission statement, the platform sets out to “*create highly innovative industrial production and to boost quality employment, thus strengthening Austria’s future competitiveness*”. It held its second Industry Summit 4.0 in December 2017. Its working groups cover a wide range of issues and have set out diverse objectives (see brackets): on security and safety, on new business models, on pilot

⁴¹ <https://www.buendnis-fuer-industrie.de/startseite/>

⁴² <https://www.arbeitenviernull.de/aktuelles/meldungen/die-digitale-arbeitswelt-gestalten.html>

⁴³ http://www.bmas.de/SharedDocs/Downloads/DE/PDF-Pressemitteilungen/2016/bericht-plattform-digitale-arbeitswelt.pdf?__blob=publicationFile&v=3

⁴⁴ <http://plattformindustrie40.at/?lang=en>

factories (concretely establishing such pilots), on norms and standards (amongst other through an Industry 4.0 Standardization Compass), on R&D and innovation (roadmap), on qualifications and skills (set of recommendations), on regional strategies (tool kit for companies, fostering collaboration) and on logistics. The working group on the “human in the digital factory” released a short scoping paper on work organisation in 2017⁴⁵ taking on a broader view on the impact of digitalisation on the labour market and raising points on human-to-machine production processes, working time and organisation, skills needs, new forms of work (including crowd work) and data privacy. Such paper developed within a multi-stakeholder approach is relevant as it merges the workers’ voice (the GPA-djp chairs the working group) with a broader understanding of transformation processes that deserves policy attention. Another example is the results paper on qualifications and competences with over 80 recommendations⁴⁶, discussed in two workshops and chaired again by the GPA-djp.

4.2.2 Other government strategies

In view of government policies, the most prominent is the Digital Roadmap⁴⁷ whose measures are evaluated on a yearly basis. According to the TUAC survey results, in the process leading up to its formulation only a public consultation took place with little influence of social partners. The same applies to the Federal Council’s discussion process on digitalisation and democracy that resulted in a “green book”. While trade unions (and other social partners) were invited to comment on a draft, they had no special role in the discussion process itself.

The Austrian Government had also planned to push forward a European Framework for Crowd-work during the Austrian Presidency (autumn 2018), but due to the elections the future of this initiative is uncertain. The Ministry of Education adopted a plan for basic digital education. It has started the first pilot schools in 2017. In both cases, trade unions were formally consulted.

4.3 Italy

Italy formulated a National Plan *Industria 4.0* for its industrial policy in 2016 that focusses on spurring private investments into industrial transformation processes, the use of new technologies and R&D⁴⁸. The plan heavily relies on an array of tax incentives for companies investing in new technologies with hyper-depreciation rates, tax deductions for investments into SMEs and R&D tax credits amongst other.

As a second pillar, the plan places strong weight on skills development for the digital age. According to the TUAC survey, trade unions were consulted on the plan. The Economic Development Ministry established a “cabina di regia”, a working group on Industry 4.0 with trade union participation. Meanwhile, the Labour Ministry organised various meetings on the issue of skills for the FoW. Related issues were also discussed during the consultation of social partners for the G7 Employment

⁴⁵ <http://plattformindustrie40.at/wp-content/uploads/2017/05/Thesenpapier-Arbeitsorganisation-Verein-I40-090517.pdf>

⁴⁶ http://plattformindustrie40.at/wp-content/uploads/2016/03/WEB_Industrie4.0_Ergebnispapier-Qualifikation-und-Kompetenzen.pdf

⁴⁷ <https://www.digitalroadmap.gv.at/en/>

⁴⁸ http://www.mise.gov.it/images/stories/documenti/INDUSTRIA-40-NATIONAL%20PLAN_EN-def.pdf

and Labour ministerial meeting on 29th and 30th September 2017 in Turin (see the Labour 7 statement: https://tuac.org/wp-content/uploads/2017/12/2017_L7-Statement_g7-lemm-turin.pdf).

As a reaction to the government plan, the Italian General Confederation of Labour, CGIL, has established a web discussion platform ("*Idea Diffusa*") with the participation of trade unionists, academics and experts. The platform is a forum to share documents, best practises and examples of collective agreements. In January 2018, the Minister for Economic Development and the General Secretary of FIM (the metalworkers' federation of the Italian Confederation of Workers' Trade Unions, Cisl) published a joint op-ed presenting detailed proposals for the implementation of the Industry 4.0 plan⁴⁹. Amongst other, with a call to strengthen collective bargaining and its new deliverables (on welfare, training, working time, etc.) that could form a social 'pact' for industries. It also proposes transition measures to modernise sectors and accelerated procedures for infrastructure development, including in meeting the governments' goal of increasing high-speed broadband coverage.

German-Italian-French Cooperation on Industry 4.0

As a testament to the similarities between different European Industry 4.0 strategies and platforms, the German *Plattform Industrie 4.0*, the French *Alliance Industrie du Futur* and the Italian *Piano Industria 4.0* agreed on closer cooperation in March 2017⁵⁰ and published an action plan a few months after⁵¹. A steering group was set up to discuss three core areas: standardisation and harmonisation in manufacturing, SMEs and on developing a joint policy vision towards enabling digitalisation for European and international discussions.

4.4 Spain

In Spain, the government followed a similar approach by developing the '*Industria Conectada 4.0*' strategy⁵² on which trade unions were consulted by the Ministry of Economics, Industry and Competitiveness. The CCOO and UGT put a joint proposal with the employer organisations forward to the government on education, training of workers, increases in female employment, etc. but, according to the TUAC Survey, the proposals were mostly not taken on board. The strategy has 'enhancing training' as one of its pillars next to developing platforms to foster collaboration and digital diffusion, especially for SMEs⁵³.

⁴⁹ http://www.ilsole24ore.com/art/commenti-e-idee/2018-01-11/un-piano-industriale-l-italia-competenze-222533.shtml?uuiid=AEcQ5JgD&refresh_ce=1

⁵⁰ http://www.industrie-dufutur.org/content/uploads/2017/09/2018_01_19_Press_release_trilateral_cooperation.pdf

⁵¹ https://www.plattform-i40.de/I40/Redaktion/EN/Downloads/Publikation/shared-actionplan-fr-de-it.pdf?__blob=publicationFile&v=4

⁵² <http://www6.mityc.es/IndustriaConectada40/informe-industria-conectada40.pdf> & <http://www.industriaconectada40.gob.es/Paginas/index.aspx>

⁵³ https://ec.europa.eu/futurium/en/system/files/ged/es_country_analysis.pdf

As a parallel process, Spain also has a Digital Agenda, ‘*Estrategia Digital Para una Espana Inteligente*’, that is bound to become a policy⁵⁴ on which trade unions are officially consulted on a regular basis as part of a public consultation process.

Outside of these strategies, trade unions are in negotiations with the government on related issues such as a right to continuous training at the workplace (as part of the working time), are calling for a discussion on employment impacts from increased automation, robotisation and AI and for studies on wage impacts, security standards and potential job losses. The UGT also put forward proposals on closing the Digital Gender Divide and had called on the government to explore regulatory options for mobile work and the right to disconnect, as well as new provisions on data privacy and protection for workers including regarding potentially increased surveillance and control by employers. The CCOO similarly calls on to replace the ongoing public consultation procedures with a social dialogue process that addresses digital transformations in depth towards formulating an action plan with provisions for coordination and financing.

4.5 Nordic responses

Social dialogue processes in Northern Europe are, given their political model, amongst the most inclusive⁵⁵. This has an effect on the governments’ approaches to consultations and involvement of both social partners.

4.5.1 Sweden

The Swedish government has set up several commissions on digitalisation and work including on digitalisation at large, workplace safety, the FoW and one on the taxi sector contributing to its Digital Strategy⁵⁶.

In parallel, the Smart Industry Strategy⁵⁷ initiated by the Ministry for Enterprise and Innovation follows the standard approach of speeding up the digital transformation and technological diffusion in the face of globalisation but also features green growth. While focussing on industry, it also covers other sectors and new business models, the framework conditions needed (including infrastructure development) and skills to increase competitiveness. The focus on jobs is limited to the goals of closing mismatches and encouraging STEM course uptake. The strategy sets out to create “*innovative and sustainable industrial production [that] is digitally connected, flexible, resource-efficient, environmentally friendly and provides the conditions for an attractive workplace*”.⁵⁸

⁵⁴ <http://www.agendadigital.gob.es/Paginas/index.aspx>

⁵⁵ <http://journals.sagepub.com/doi/full/10.1177/1024258917702274>

⁵⁶ <http://www.government.se/information-material/2017/06/fact-sheet-for-sustainable-digital-transformation-in-sweden--a-digital-strategy/>

⁵⁷ <http://www.government.se/information-material/2016/04/smart-industry---a-strategy-for-new-industrialisation-for-sweden/>

⁵⁸ Idem, p. 24

In parallel, a Multi-stakeholder Digitalisation Council⁵⁹ has been created in spring 2017. It serves as an expert body to advise on the implementation of the Digital strategy and to help coordinate between priority areas (e-health, e-government, etc.). Trade unions are represented by Unionen.

4.5.2 Denmark

The Danish government – in consultation with most social partners (some more indirectly) – pursues a multi-tier approach. First, the Business and Entrepreneurship package features a strategy for digital growth and a strategy for the sharing economy. Trade unions submitted their concerns specifically on the promotion of the platform economy which included a tax deduction proposal on income for private rentals through platforms that would be much higher than the existing tax deduction regulation for “summer house rentals” and in which reporting duties are on a voluntary basis.

The second initiative is the ‘*Disruption Council*’ launched in 2017 that includes 6 trade union representatives⁶⁰. Trade union concerns revolve around providing appropriate social security and training measures for workers faced with automation or working in the platform economy. The Council is primarily a think tank that enables multi-stakeholder discussions. On the platform economy, discussions are being separately spearheaded by the Ministry of Employment with inputs from the members of the Disruption Council. In addition, a tri-partite agreement on re-skilling has been agreed on (more information in the section on training). In sum, while some trade unions are included in discussions, the most tangible policy outcome is the Business and Entrepreneurship package that – apart from its focus on skills – does not fully feature core trade union priorities. Meanwhile, the Disruption Council is a forum for debate, so it has to be seen if it leads to concrete proposals and actions.

4.6 UK

The UK similarly developed an industrial strategy that was finalised with a white paper in November 2017⁶¹. The paper was preceded by a ‘green paper’ in January 2017. In difference to similar processes in other countries, the government followed its standard approach of public consultations – thus not involving social partners directly with no working groups or proceedings allowing for formal exchanges of positions. The Trade Union Congress (TUC) made a submission to the ‘green paper’. However, there were no calls for submissions to the ‘white paper’. As a response, the TUC published a discussion paper ‘*Shaping our digital future*’ in September 2017 with key recommendations to the government, also highlighting social dialogue approaches abroad⁶².

Upon the release of the white paper, the TUC acknowledged that the strategy is a step forward from the UK’s hands-off policy stance on industrial policy in past years. The focus on promoting competitiveness on specific technologies (AI) and green growth were in line with TUC

⁵⁹ <http://www.digitaliseringsradet.se/en/>

⁶⁰ <https://lo.dk/en/the-disruption-council/>

⁶¹ <https://www.gov.uk/government/news/government-unveils-industrial-strategy-to-boost-productivity-and-earning-power-of-people-across-the-uk>

⁶² <https://www.tuc.org.uk/research-analysis/reports/shaping-our-digital-future>

recommendations. However, the proposal for stakeholder involvement in both a future Industrial Strategy Council and an AI Council leaves trade unions out. In this regard, the white paper displayed bias towards the business community. The TUC further criticized the proportionally low level of investment pledges and plans to influence the implementation of the strategy as much as possible. On the positive side, the TUC will however be involved in the new Task Force on Skills together with the Confederation of British Industry CIB (more information in section 4.8).

The UK government is also establishing a number of Sector Deals, in an attempt to raise productivity in specific industrial sectors. Criteria for establishing such Deals are vague. UK trade unions are seeking participation in those Sector Deals that are established or are in the pipeline, but no formal right to union participation has been established thus far.

The same approach vis-à-vis trade unions was taken on the *Digital Strategy* (2017) that primarily focuses on digital infrastructure needs, encouraging business adaptation and growth, skills, cyber- and e-government issues⁶³. In fairness, it is worth noting that the content and the fact that trade unions were not as involved is fairly typical for most digital agendas that are taking a technological and business oriented view – leaving employment and social aspects to Labour Ministries or Industry 4.0 debates.

In view of discussions on non-standard forms of work indirectly linked to the rise of online platform work, the most recent outcome is the ‘*Taylor Review*’ on new employment practices commissioned by the government in 2016 and released one year later⁶⁴. Written by Matthew Taylor from the Royal Society of the Arts, it entailed discussions between civil servants and the TUC, and a series of ‘town hall’ meetings around the country at which the TUC ensured that unions were represented. The TUC also released its own research and priorities with the ‘*Gig is Up*’ report⁶⁵. The final paper acknowledged the need for a strong workers’ voice and called for an extension of information and consultation rights below current thresholds and for non-employees, as well as for companies to provide insights on their employment model upon request. This was positively received by the TUC. Yet, the report did not push for a stronger role of collective bargaining for workers in precarious jobs or featured the idea of sectoral councils.

In February 2018, the government published its response to the review. The TUC described the response as inadequate to meet the challenges faced by those in insecure work⁶⁶. In its view, the proposals fall short of ending zero-hour contracts and false self-employment. The TUC dismissed the government proposal to give workers the right to demand a stable contract with their agency as a false remedy that is not bringing workers into regular employment. They also called on to be granted the right to “*access to all workplaces, to support insecure workers most in need of representation*” to be able protect workers in non-standard forms of work and bogus self-employment on online platforms.

⁶³ <https://www.gov.uk/government/publications/uk-digital-strategy/uk-digital-strategy>

⁶⁴ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/627671/good-work-taylor-review-modern-working-practices-rg.pdf

⁶⁵ <https://www.tuc.org.uk/sites/default/files/the-gig-is-up.pdf>

⁶⁶ <https://www.tuc.org.uk/blogs/insecure-workers-need-change-%E2%80%93-ministers-must-their-game>

As a positive outcome, the TUC welcomes consultations on a day-one right to information about pay and conditions (now set to up to 2 months after the initial employment starting date). It is also considered to extend the same right to all workers not just employees⁶⁷. The TUC equally endorses the proposal to oblige employers to declare working hours on payslips⁶⁸ to ensure more transparency. For years, the TUC had also suggested installing equal pay rights for agency workers that would necessitate changes in the so-called ‘Swedish derogation’ - the government will now launch a consultation. Overall, the TUC assessment remained critical of the proposals that were deemed insufficient and intend to engage in the upcoming consultations.

4.7 Social Partner Approaches to Employment Transitions

As the labour movement is calling on governments to ensure a just transition for those workers affected by technological change, it is important to highlight potential strategies that complement training guarantees and investments in skills systems. While important in enhancing a worker’s employability, they are not guaranteeing a new job. The set-up of tri-partite transition funds, anticipation of new occupational tasks and universal social protection systems are considered as effective according to trade union survey responses. The set-up or strengthening of bodies such as Sector Councils and the facilitation of collective worker representation through trade unions at all levels can help the delivery.

4.7.1 The Swedish Job Security Councils

The Swedish Job Security Councils are one concrete, existing mechanism in ensuring smooth transitions from one job to another. In existence since the 1970s, they are now covering almost all economic sectors (except companies without collective agreements). This system is an example of how to ensure resilient labour markets with high levels of employment protection and collective bargaining⁶⁹.

In essence, the Councils are about employment security as they are helping workers to find a new job after economically motivated lay-offs. They are bi-partite social partner bodies in charge of transition agreements, career guidance and training services under strict criteria set in collective agreements⁷⁰ on dismissal protection without any government involvement⁷¹. As they intervene early in the restructuring process, their success rates are high as shown in the statistics of the TRR council that placed 88 per cent of laid-off workers in new employment in 2016⁷².

Trade unions are consulted on dismissals, which are based on provisions set out in the Employment Protection Act including that lay-offs need to be economically motivated and the selection of

⁶⁷ <https://www.tuc.org.uk/blogs/government-needs-get-serious-about-equal-pay-agency-workers>

⁶⁸ <https://www.tuc.org.uk/blogs/taylor-review-government-should-take-opportunity-make-work-truly-transparent>

⁶⁹ OECD (2017) Employment Outlook 2017, p. 12

⁷⁰ <https://www.eurofound.europa.eu/observatories/emcc/erm/support-instrument/job-security-councils>

⁷¹ The financing is within the scope of wage increases, approximately 0.3% of the employer’s payroll.

⁷² <https://www.trr.se/om-trr/press/pressmeddelanden/2016-basta-arbetsmarknaden-sedan-finanskrisen/>

outgoing employees needs to follow the “last-in-first-out” principle – protecting workers who have been in a company longer. However, firm-level bargaining allows for deviations from the latter. The agreements that set up the two biggest job security councils, *TRR Trygghetsrådet*⁷³ and *TSL Trygghetsfonden*⁷⁴, include annexes that direct employers and trade unions to, when negotiating redundancies, if necessary to deviate from the last-in-first-out-principle and take into consideration the company’s need to keep competent staff. There is thus a close connection between the Councils and the leverage given to trade unions through dismissal protection legislation. So rather than being an alternative to dismissal protection, the job security councils are built on it.

It is important to consider that based on eligibility criteria (duration, type of contract, age group) workers are entitled to financial compensation to complement unemployment benefits. To illustrate the wide reach and mandate of the Councils: The TSL’s insurance scheme and agreement cover over 100.000 companies, while the TRR is covering over 30.000 companies. Besides the services for laid-off workers, they are providing advice to firms on dismissals and training to trade union representatives. They also assist those who want to become self-entrepreneurs.

When considering exporting the Job Security Council model – be it in a bi- or tripartite set-up, it is important to consider systemic factors. Sweden is amongst the European countries with the highest collective bargaining coverage and 70% workers unionised⁷⁵. The Councils but also parameters of collective agreements are independent of the government and its budget. However, what this model clearly demonstrates and what can be encouraged elsewhere is a close and large-scale cooperation between the social partners in different sectors allowing them to build networks and sustainable joint funds. Also, when discussing the introduction of technologies at the firm level – this example shows that with social dialogue and trained worker representatives any type of transformation can be anticipated and managed.

4.8 Trade Union Approaches to Training Provision

Since the need to strengthen education and training systems under a life-long learning prism is being put forward in almost all policy discussions on digitalisation and the FoW, it is much needed to highlight best practices of trade unions and ideally support such approaches when updating skills strategies and governance systems.

As mentioned in the previous section, in Denmark two important tripartite agreements were closed in the past two years: to create 8-10.000 new apprenticeships (2016) and a broader agreement on adult VET with over 80 commitments (2017). The first agreement sets out a fine and reward systems for the creation of apprenticeships (or the lack of) and financial incentives for learners to join programmes with higher job creation potential. The adult VET agreement sets out measures to encourage the mainstreaming and uptake of VET courses.

⁷³ <http://www.trr.se/>

⁷⁴ <https://www.tsl.se/om-tsl/about-tsl/>

⁷⁵ <https://www.worker-participation.eu/National-Industrial-Relations/Map-of-European-Industrial-Relations>

As the TUAC survey shows, most trade unions are consulted on the initial design and broader decisions on skills systems. However, the Danish, but also the German or Austrian examples show that training systems deliver better results and result in higher employability when both social partners participate in governance, financing and oversight. To come back to the Danish example, over 30 per cent of adults participate in some form of training annually⁷⁶ - the EU 28 average was 10.7 per cent in 2014⁷⁷. The higher numbers can certainly be attributed to the shared tri-partite responsibility in managing the system including its further development and financing (including through a dedicated employer fund). However, there is almost no official training system for people with a tertiary education – therefore, not the entire labour market is covered as of now.

Trade unions in Austria along with employers have representatives on the boards of the Austrian Employment Centre and the Council on Vocational Training. All bodies have adopted strategies. ÖGB representatives were involved in the negotiations for the adopted curricula on basic digital education and the digital strategy of the Austrian Federal Ministry of Education. The trade union together with the Austrian Chamber of Labour (AK) are also financing further education for works councils, e.g. on data security, SAP-implementation and Industry 4.0 matters.

Finally, as an example of proactive trade union activity (supported by the government), Unionlearn in the UK – the learning arm of the TUC - helps workers access critical skill development opportunities, working with trade union members to negotiate, bargain for and facilitate learning at work⁷⁸. In the last year their approach has led to over a quarter of a million workers accessing skills development and gaining qualifications. More than two thirds of learners with no previous qualifications gained one for the first time with Unionlearn support. 19 per cent of learners gained a promotion or increased responsibility; 11 per cent secured a pay rise as a result of their new skills. In one year, the total economic benefit to learners from Unionlearning was £895m, while the total benefit to the employers was £558m. The total economic return has been £12.30 for every £1 invested.

In view of digitalisation, Unionlearn is now gearing towards establishing their digital capacity in the training provision and will be playing a leading role in the National Retraining Partnership, with the government and the employer organisation CBI, shaping the skills system for industry 4.0.

4.9 Bi-lateral social dialogue and unilateral trade union actions

Bi-lateral social dialogue and collective agreements at sectoral and firm level are not a substitute for including social partners in national policy discussions or for tri-partite nation- or sector wide agreements, yet they are complementary. To fill in the gaps, unilateral trade union actions can lead to concrete changes for workers at best and to policy awareness at least. If they have not yet, the selected examples illustrated below should trigger more policy attention.

⁷⁶ <http://www.nykat-gym.dk/media/1673/120312-education-and-training-in-dk.pdf>

⁷⁷ <http://www.cedefop.europa.eu/en/publications-and-resources/publications/8101>

⁷⁸ <https://www.unionlearn.org.uk/>

4.9.1 Bi-lateral social dialogue

There are different motivations for firms to negotiate and cooperate with trade unions. Higher wages and demand and responsible business conduct pay off, so do retaining tacit knowledge and a motivated workforce. Many companies however are pressured on their margins, are resorting to outsourcing, lay-offs and are lowering labour costs.

European Social Dialogue

At their 2016 Tripartite Social Summit, the European social partners (BusinessEurope, ETUC, CEEP and UEAPME) issued a joint statement on digitalisation calling on the European Commission to work jointly towards fostering business dynamics and employment creation⁷⁹. In the insurance sector, social partners issued a declaration in October 2016 with more concrete provisions on common responsibilities, employee data protection and training, and working towards social outcomes⁸⁰. The same approach has been taken in the Metal, Engineering and Technology-based industries (MET) sector with a joint declaration in December 2016 that acknowledges transformational pressures and the need to review OHS standards and training provisions⁸¹.

Several declarations/ agreements on telework with more detailed provisions have been made in the last two years, notably in the insurance sector (February 2015)⁸², the telecom sector (June 2016)⁸³ and the banking sector (November 2017)⁸⁴. Such agreements show that selecting a specific area with identifiable challenges can lead to more operational outcomes specific to sector needs.

Company-level agreements

In October 2017, the global union IndustriAll and the online retail brand Asos signed a global framework agreement – the first of its kind in the e-commerce sector⁸⁵. It seeks to establish a joint assessment of practices, allows for worker hotlines and foresees to incite Asos employees to participate in the IndustriAll workers' rights programme. Common strategies on responsible business conduct and working conditions will be discussed in country contexts.

Regarding the intensification of work and increased, unregulated control of employee data, one of the most prominent agreements was closed between the French telecommunications heavyweight Orange

79 https://www.buinessseurope.eu/sites/buseur/files/media/position_papers/social/2016-03-16_tss_-_statement_on_digitalisation.pdf

80 <https://www.insuranceeurope.eu/sites/default/files/attachments/Joint%20declaration%20on%20the%20social%20effects%20of%20digitalisation.pdf>

81 <http://www.ceemet.org/news/industrialall-ceemet-joint-position-impact>

82 <http://www.uniglobalunion.org/news/uni-europa-finance-signs-declaration-telework-insurance-employers>

83 https://etno.eu/datas/ETNO%20Documents/Joint_Declaration_telework_UNIeuropa_ETNO.pdf

84 <https://www.ebf.eu/wp-content/uploads/2017/11/Joint-Declaration-Telework-in-the-European-Banking-Sector-Final-version-signed.pdf>

85 <http://www.industrialall-union.org/industrialall-signs-global-framework-agreement-with-asos> & https://www.asosplc.com/~/_media/Files/A/Asos-V2/global-news/pr-03-10-2017.pdf

Telecom and five trade unions (CFDT, FO, CGT, CFE and SUD)⁸⁶. The 56-page agreement contains commitments on employee data protection (including transparency over use and full disclosure), work-life-balance, training and the introduction of new technological equipment. In France, several companies followed on with agreements or are in negotiations with trade union representatives on the “right to disconnect” (which is part of the new labour law), e.g. a branch of Michelin (with a tool alerting employees to stop working outside standard hours). Other companies such as Volkswagen in Germany or Siemens in Italy also have reached agreements on working time and changes to the workplace. Such agreements are numerous in traditional sectors with a stronger trade union footprint, less so in digital economy companies and SMEs. However, they show the need for policy action on the national level as the current challenges are identified in the firm agreements but should be tackled sector-wide.

4.9.2 Unilateral trade union actions

In terms of trade union unilateral actions, means and scope vary widely. Some can be seen as a continuation of the trade union tradition to raise awareness and organise in growing sectors, some might be seen as a result of policy inaction and regulatory arbitrage, or both. This sub-section aims to give a short overview of such activities. While they are not within the scope of this study, they deserve closer attention further on. The identified trade union actions are labelled as follows with selected examples below:

Table 2 Examples of unilateral trade union activities

| | Rationale | Examples |
|------------------------------------|---|---|
| Organising & Bargaining | <p>Growing sectors (e.g. IT)</p> <p>New occupations</p> <p>Platform economy</p> | <p>- IT sector workers (e.g. CFDT, France)</p> <p>- Foodora/ Deliveroo (France)</p> <p>- Amazon work councils (Ver.di, Germany)</p> |
| Regulatory change | <p>Competition law preventing organising (semi-) self-employed workers</p> | <p>Trade Unions in Ireland pushed for the now adopted Competition (Amendment) Act 2017 that enables non-employees to bargain collectively. It thereby introduces new categories of a "false self-employed worker" and a "fully dependant self-employed worker" – both relevant to the platform economy. In 2011, the Irish Congress of Trades Unions (ICTU)</p> |

⁸⁶ https://www.cfecgc-orange.org/documents/archives/CIT_Numerique/Premier_accord_sur_laccompagnement_de_la_transformation_numerique_chez_Orange.pdf

| | | |
|---|--|---|
| | | sent a complaint to the ILO, which was ruled as admissible. |
| Legal action / campaigning | Restoring labour rights, minimum pay or challenging the license to operate for on-demand platforms | The most prominent legal cases were put forward against the transport service platform Uber (and similar companies such as Lyft and Deliveroo) with direct implication or through indirect support with campaigning efforts by trade unions such as in the US (San Francisco, Seattle , etc.), the UK (London), or Denmark . |
| Delivering evidence & trade union narratives | Build evidence and alternative proposals on policy discussions | <ul style="list-style-type: none"> - An assessment and guidelines to members of the German Trade Union Confederation on the government's work 4.0 white paper; - The Gig is Up Report (TUC, UK) as a response to the 'The Taylor Review'; - The Austrian ÖGB published a book on "Work in the Gig Economy" in which legal experts evaluate selected platforms and their legal status against labour law; - The Italian CGIL has established a, publicly not accessible, online platform ("Idea Diffusa") with the participation of trade unionists, academics and experts to discuss the impact of the digitalisation transformation; |
| Information / Online Platforms | Lack of information sources on new technologies or legal and labour rights in digital work | <ul style="list-style-type: none"> - The Austrian Union for Private Sector Employees and Graphical Workers (GPA-djp) launched booklets on for example digital personal management with aspects on Big Data; - The German IG-Metall launched the information and exchange platform for crowd workers (www.faircrowd.work) that the Swedish Unionen and the Austrian ÖGB (with the Austrian Chamber of Labour) joined in the process. Similarly, the Spanish |

| | |
|--|---|
| | UGT created a platform (http://www.turespuestasindical.es). |
|--|---|

5. Conclusions

5.1 Lessons from ongoing policy discussions

As this study demonstrates, the issues surrounding digital transformations and the FoW concern several ministries, often operating in silos. The current policy landscape at the national and international level is still developing. Approaches are heterogeneous within and amongst countries as described above ranging from discussion platforms to concrete strategies that are being implemented.

Clearer objectives such as increasing high-speed broadband coverage, investing in entrepreneurship and skills are further along and are backed by concrete measures. Similarly, industry 4.0 strategies are more concrete as they focus on specific sectors. The same however needs to be done on other emerging issues and across sectors. For now, employment issues (with notable exceptions) are either dealt with through reforms of labour codes and in discussions around reforming social protection and security, education and training systems.

Given the fact that the effects of automation and other transformative dynamics on job quality and quantity have yet to be estimated, less is being done in concrete terms to design mechanisms ensuring just transitions for workers affected by digital disruption – here, existing systems as the social partners’ coordinated Swedish Job Security Councils might serve as a model.

Equally, on non-standard forms of work propelled by online platforms, competition or local authorities, and courts are put in the driving seat. In addition, there need to be policy discussions on employment relationships and steps towards securing quality jobs for the future. What is discussed to a far greater degree are working conditions in traditional jobs, mostly related to mobile work and the right to disconnect.

Likewise, more needs to be done on technologies that are not yet, but will soon be diffused on a larger scale and the convergence thereof – such as AI, advanced robotics and 3D printing. The debate for now revolves around predicting their effects on organisational structures and employment numbers. Similarly, while discussions on data privacy, protection and ownership are advancing – there is not enough emphasis on workers’ data, aside from a more vivid debate on mobile work, which relates to it but is not the same.

5.2 Lessons for the future scope of social dialogue

In regard to social partner involvement in any existing and future policy frameworks, parity needs to be re-established and inputs from trade unions valorised in devising the right steps towards organisational change. Importantly, social dialogue and collective bargaining need to be strengthened not weakened to support inclusive, job-rich growth. Other labour market institutions and within that employment protection need to become key pillars of forward-looking employment plans. Trade union and social partners’ involvement and direct contributions to insurance and transition funds and training systems need to be encouraged. Further research and subsequent policy responses are needed

to back up social dialogue and trade unions in carrying the workers' voice. There are several options to keep in mind and from a policy viewpoint to support:

- Direct involvement in digitalisation, industrial, employment and related policy frameworks
- Collective bargaining agreements at all levels to ensure quality jobs and decent wages
- Freedom of association and workers' voice (also in the digital economy)
- Ensuring data privacy and protection, as well as appropriate levels of surveillance on the job (off- and online)
- Updating OHS standards for new technologies, algorithms and new materials
- Co-creating ethical and organisational standards on the development and use of AI
- Collectively agreeing on transition frameworks and insurance schemes
- Designing, overseeing and co-financing training programmes and workplace innovation
- Co-fund trade-union led exchange platforms, career guidance and e-training to workers.

Equally important is to address the challenges trade unions are facing in delivering the above objectives which range from restrictions on unionisation and the decentralisation of collective bargaining, at times insufficient levels of tripartite structures and engagement at the national policy level, to regulatory challenges arising from the cross-border, non-jurisdiction bound operations in the digital economy. The common policy goal should be to strengthen the bargaining power of labour and not putting the burdens of employment changes on individual workers. The bottom line is that there is evidence for the positive contributions of trade unions to inclusive growth and productivity. So, while the technologies and business models might be new, the political priority in Europe needs to remain quality job creation, a level playing field and responsible business conduct.

In conclusion, policy makers at all levels can ensure that regulatory gaps are closing, collective bargaining and social protection are both strengthened and last but not least just transitions for all working people are in place. To do that, a more comprehensive policy framework with the involvement of both social partners is needed towards achieving:

- ▶ Standards for the diffusion of new technologies agreed in tripartite frameworks, through collective agreements and consultation at the firm level
- ▶ Appropriate regulations of digital business models in view of high market concentration, corporate governance and taxation
- ▶ A just transition framework towards securing quality jobs
- ▶ Anticipation of job creation and losses across sectors through interdisciplinary and participative research
- ▶ A lifelong learning guarantee that aims at strengthening VET systems and allowing for paid educational leave administered through learning time accounts
- ▶ Universal social protection schemes that are universal and portable, if needed built on multi-employer plans.

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