

Social dialogue to support Industry 5.0: What role for social partners?

BRIDGES 5.0 Policy Brief #7

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Key points.

Industry 5.0 needs more than technology adoption alone. Its success depends on whether companies, workers and social partners can jointly shape how technologies are introduced, how work is reorganised, how skills are developed, and how risks to job quality, health, safety and well-being are addressed. Social dialogue is therefore not an add-on to Industry 5.0, but one of the institutional mechanisms through which its human-centric, resilient and sustainable ambitions can be translated into practice.

- **Industry 5.0 has emerged as a central concept in European industrial policy**, reflecting a shift from a purely technology-driven perspective of societal transformation towards a wider vision in which economic, social, and environmental objectives are all integrated. The Industry 5.0 concept promotes an industrial model that is sustainable, resilient, and human-centric.
- In the Industry 5.0 transformation, the focus is not on technology as such, but rather on **how (new) technologies are embedded within organisations, how companies manage technological and organisational change processes, and how workers are involved in and can influence the decision-making process.**
- At the company level, **meaningful worker participation**, either by involving workers directly or indirectly through elected representatives like a works council or trade union delegation, is a key condition for sustainable, human-centric, and socially legitimate technology adoption. Involving workers in the design, implementation, monitoring and evaluation of (new) technologies creates trust, facilitates acceptance and improves organisational performance, while safeguarding their rights and needs.
- In addition, **social dialogue**, including **collective bargaining**, between the employer and the workers at the **company level** allows them to jointly address issues related to technological and organisational change, including impacts on working conditions, the organisation of work, workers' health and safety, skills and career development, etc.
- Beyond the company level, the **social partners** – employers' organisations and trade unions – play a role in advancing Industry 5.0 in several ways at the sectoral, regional, national and supranational levels, for example by engaging in social dialogue around Industry 5.0 topics and impacts, by anticipating emerging skill needs and developing training initiatives, supporting innovation, identifying good practices, etc.
- Social partners can help to **make Industry 5.0 more concrete** for companies that are less familiar with the concept but are striving towards a more human-centric, resilient, and sustainable future. By bringing Industry 5.0 and its impacts on work organisation, working conditions, skills etc. to the bargaining table, Industry 5.0 becomes a more tangible concept that companies can engage with and operationalise.
- **Strong industrial relations systems and social partner capacity** are thus essential for achieving Industry 5.0 and for ensuring its uptake and scaling up across companies in the European Union. Policymakers should, therefore, take measures to strengthen social dialogue and to build the capacity of the social partners around Industry 5.0.

Context and importance of the issue.

Background to BRIDGES 5.0 and this policy brief.

BRIDGES 5.0 is a Horizon Europe project that centres on **workforce skills for Industry 5.0**, with the aim of shedding light on the **drivers that contribute to a human-centred, resilient and sustainable industry in Europe**, as well as offering **support to the key actors driving this transition towards an Industry 5.0 future**.

The policy challenge is not simply to promote Industry 5.0 as a concept, but to create the institutional conditions that allow companies, workers and social partners to translate it into practice. At present, this translation is constrained by uneven social dialogue capacity, late or symbolic worker involvement, limited integration of job-quality concerns into technology adoption, and insufficient coordination across company, sectoral and regional levels.

In the first year of its implementation, the BRIDGES 5.0 project developed a conceptual and theoretical framework for understanding Industry 5.0 (Oeij et al., 2023). This was an important first step, considering that the understanding and uptake of the Industry 5.0 concept appeared limited among companies and stakeholders. Building on this work, the BRIDGES 5.0 project team developed a data strategy and measurement framework, assessed the nature of job transformations under the Industry 5.0 transition, and analysed changing Industry 5.0 skill needs. It proposed scenarios and future pathways for Industry 5.0 jobs and implemented and evaluated interventions in the form of Teaching and Learning Factories. The project team also developed an Industry 5.0 platform¹, that serves as a central hub on Industry 5.0 for researchers, policymakers, companies, social partners and other stakeholders.

Across its activities, the BRIDGES 5.0 team **engaged with a wide range of stakeholders**. The project has benefited from its collaboration with social partners of the industrial sectors, IndustriAll and CEEMET. BRIDGES 5.0, moreover, has led to several follow-up projects in which social partners collaborate, for example Seismec, Incentivise 5.0, Shift 5.0, LCAMP, WIN4SME and the Dutch NWO Augment.

This policy brief is part of the BRIDGES 5.0 project's stakeholder engagement efforts, as it covers the topic of **social dialogue and the role of the social partners in advancing Industry 5.0**. BRIDGES 5.0 emphasises the involvement of both employers' organisations and trade unions in the transition to Industry 5.0. It recognises their role in the workplace, sectoral, regional, and (supra)national levels, where the social partners not only **negotiate agreements** but also serve as **governance actors shaping and making policies**. Besides **engaging in social dialogue and collective bargaining** around Industry 5.0, social partners also contribute to the transition towards Industry 5.0 through their **role in sectoral training funds, regional networks, and other bodies**, e.g. by supporting the anticipation of changing Industry 5.0 skill needs, the validation and certification of skills, etc.

Although the brief focuses primarily on the human-centric dimension of Industry 5.0, social dialogue also contributes to resilience and sustainability by helping companies anticipate

¹ This platform is available on Fresh Thinking Labs, the international open-source movement for workplace innovation. BRIDGES 5.0 has created open-source labs where information about Industry 5.0 is shared.

skills shortages, manage restructuring, design just transition pathways, and address the employment and occupational safety implications of green and digital transitions.

For this policy brief, input on the social partners' role in advancing Industry 5.0 was gathered from employers' organisations and trade unions, as well as from other stakeholders such as academic experts, training providers, sectoral bodies, and regional networks. To do this, the topic of social dialogue around Industry 5.0 was presented and discussed at an **in-person workshop organised in Vienna (Austria) in January 2026**, where a dedicated discussion on this issue was led by a trade union representative².

Besides this workshop, the topic of social dialogue and the role of the social partners was also discussed at an **online webinar hosted in March 2026**, which was dedicated to this subject: *"What role for social partners and social dialogue in boosting Industry 5.0?"*. The webinar addressed the state of social dialogue in the EU, the challenges and opportunities for social dialogue, and zoomed in on collective bargaining and worker participation in the context of technology adoption and the transition towards Industry 5.0, and the preconditions for an effective social dialogue.

In addition to the webinar dedicated to social dialogue, the topic also came up in an **online webinar hosted in June 2026**, which invited managers to share their experiences with Industry 5.0 in their own companies and sectors. In this webinar, managers underlined the importance of worker participation in the transition towards an Industry 5.0, as a means to build trust, ensure acceptance, and reduce resistance in times of technological and organisational change.

The Fresh Thinking Labs platform was used to advertise the workshop and webinars, to help speakers and participants prepare for it, and to gather additional information, and validate results. The insights from the events were enriched with **scientific and grey literature**.

This policy brief is **part of a series of eight policy briefs** developed by the BRIDGES 5.0 project. In the summer of 2026, six of these policy briefs were already available through the project website, covering topics such as the conceptual underpinning of Industry 5.0, lessons from Teaching and Learning Factories, and challenges and opportunities for companies in the Industry 5.0 transition. Together, the policy briefs aim to translate the findings from the BRIDGES 5.0 project into recommendations for policymakers and stakeholders, making Industry 5.0 more tangible and putting the vision into action.

Key concepts used in this policy brief.

Social dialogue: all forms of negotiation, consultation, and exchange of information between or among representatives of the government, workers, and employers on issues of common interest relating to economic, employment and social policy. Social dialogue is organised at distinct levels, including the supranational, national, regional, sectoral, and company levels. In this policy brief, all these distinct levels are considered because they are connected and influence one another.

² Forty-five persons participated, with backgrounds: IndustriAll, Proge Trade Union, OECD, ILO, Irish government, Irish employers' association, Austria employers, and others. The findings should be read as stakeholder-informed insights rather than as a representative survey of European industrial relations systems.

More specifically, at the **company level**, social dialogue between the employer, on the one hand, and workers and their representatives, on the other hand, is aimed at tackling issues that directly affect the **workplace** and **day-to-day working life**, e.g. the working conditions, the employment conditions, and the organisation of work. When companies implement new technologies and redesign work, company-level social dialogue becomes important for identifying problems and developing solutions that benefit both the company and its workforce. Within the BRIDGES 5.0 project, companies are seen as key drivers of Industry 5.0 (Oeij et al., 2023). Managers, in particular, are at the forefront of this transition.

At the **sectoral level**, the social dialogue between employers' organisations and trade unions covers an entire (branch of an) industry, with the aim of setting common standards for the whole industry. This concerns issues such as (minimum) wages, training provisions, pensions, etc. In many cases, sector-level collective agreements (see below) establish a common baseline that companies must respect, while company-level collective agreements can only improve on what has already been agreed at the sectoral level. The sector level is particularly relevant as it helps avoid competition based on lower labour standards, and it further ensures that smaller companies, where social dialogue may be less formalised or weaker, are covered. At the sector level, social partners further play a role by setting up bipartite sectoral (training) funds, through which they support the anticipation and monitoring of changing skill needs.

Turning to social dialogue at the **(supra)national and regional levels**, here, the overarching regulatory and legal frameworks that shape rights, protections, obligations, and procedures are established. In addition, economic, social and industrial policies are typically determined and evaluated at these levels. Social dialogue thus has an important coordinating role. When it comes to the national and regional levels, social partners are often involved in networks or ecosystems that build learning infrastructures and drive innovation.

Social dialogue does not automatically produce better Industry 5.0 outcomes. Its effectiveness depends on timely access to information, representative and sufficiently resourced social partners, trust between employers and workers, technical expertise, and institutional support. Where these conditions are weak, public policy has a role in strengthening them.

Collective bargaining: formal negotiation leading to collective labour agreements (CLAs).

Worker participation: direct or representative involvement of workers in workplace decision-making processes. Examples of worker participation through representative involvement are works councils, board-level representation, etc. These differ across EU Member States.

Workplace innovation / organisational participation: practical involvement in the design and implementation of work processes and technologies.

Social dialogue in the European Union.

Social dialogue as a cornerstone of the social model.

Social dialogue is recognised as a **fundamental component of the European Union social model**, enshrined in the Treaties, and contributing to the economic competitiveness, social cohesion, resilience, and inclusive growth in the EU. At both the EU level and in the Member States, social dialogue serves as a key mechanism for governing labour markets and welfare states. Social dialogue is particularly important in times of change, as it balances the interests of both companies and workers, and helps them to better anticipate and manage the impacts of global transformations such as digitalisation and climate change, including those arising in the context of Industry 5.0.

Social dialogue and the involvement of workers is one of the twenty principles included in the European Pillar of Social Rights (EPSR). More specifically, **Principle 8** of the EPSR stipulates that the social partners must be consulted on the design and implementation of economic, employment and social policies, according to national practices, and must be encouraged to negotiate and conclude collective agreements in matters relevant to them, while respecting social partners' autonomy and the right to take collective action. Finally, Principle 8 highlights the need to build capacity among social partner organisations.

Strengthening social dialogue as a policy priority.

Given its importance, in the past decade, EU policymakers have launched **several initiatives aimed at strengthening social dialogue**, both at the EU level and in the Member States. In line with the EPSR Action Plan, the Commission adopted a *Communication on strengthening social dialogue in the EU: harnessing its full potential for managing fair transitions* in January 2023, which was accompanied by a proposal for a Council Recommendation. This **Council Recommendation of 12 June 2023 on strengthening social dialogue in the European Union** was adopted. This Recommendation focuses on creating an enabling environment for bi- and tripartite social dialogue; promoting strong, independent and representative social partner organisations; ensuring access to information to allow for a meaningful participation in social dialogue among all actors; ensuring appropriate institutional support; and adapting to a changing world of work (notably in relation to ongoing digitalisation and climate change). These topics were revisited in the 2024 **Val Duchesse Social Partner Declaration** and in the 2025 **Pact for European Social Dialogue**.

Several recent EU Directives explicitly address social dialogue or aim to build social partners' capacity. One important example is the **Minimum Wage Directive**, which requires Member States to achieve 80% coverage of workers by CLAs, giving trade unions a stronger place in the landscape. Another example is the **Platform Work Directive**, which foresees a key role for the social partners and social dialogue in ensuring legal certainty and transparency around the labour status of platform workers, in providing more specific rules to protect workers' rights and freedoms in relation to the processing of their personal data, and in safeguarding human oversight in the use of automated monitoring and decision-making systems. Furthermore, the Platform Work Directive states that the Member States must promote the role of the social partners and encourage the exercise of the right to collective bargaining in the context of platform work. Similarly, the **AI Act** calls for the involvement of the social partners, through its focus on standardisation (Dhondt et al., 2026). Finally, the forthcoming **Quality Jobs Act**, of which the second-phase consultation of European social partners is now ongoing, has identified enforcement of existing EU and national legislation and the role of social partners as a priority area. The other priority areas include algorithmic management

and AI at work, occupational safety and health, workers' rights in subcontracting chains, and fair digital and green transitions. These priority areas all relate to the Industry 5.0 transition.

Social dialogue around Industry 5.0.

Why social dialogue matters for Industry 5.0.

Industry 5.0 places **people at the core of technological transformations**, emphasising that **sustainable technological innovations benefit workers, companies, and society**. This view, however, represents a shift from perspectives that associate technological change with competitiveness and productivity, while perceiving investments in workers' employability and skills merely as a cost. Instead, Industry 5.0 recognises the profound impact of technological transformations in terms of employment, working conditions, the organisation of work and the work environment, and it offers a framework on how to best address these.

Within the BRIDGES 5.0 project, there was broad agreement among both researchers and stakeholders that **social dialogue**, more generally, and **worker participation**, at the level of the company, are essential to ensuring that **technological transformations** bring benefits to companies and workers. Social dialogue and worker participation matter, both in terms of enabling companies and workers to address challenges and reap opportunities.

The **European social partners' framework agreement on digitalisation** concluded in 2020 represents the social partners' shared commitment to these goals. Recognising that the risks and benefits of digitalisation are not distributed equally across companies and workers, nor are the potential benefits of this transformation automatic. The framework agreement thus highlights four areas that warrant specific attention: (i) digital skills and securing employment, (ii) modalities of connecting and disconnecting, (iii) AI and guaranteeing the human in control principle, (iv) respect of human dignity and surveillance. For each area, the agreement offers concrete measures to be considered.

The discussions held in the BRIDGES 5.0 project intricately connected to these topics and were in line with the agreement's main points. Stakeholders stressed that investment in workers' skills and capabilities should be seen as mutually beneficial and further argued that workers should be involved in the design and implementation of new technologies, as this can improve acceptance of these technologies and facilitate their adoption. This also helps ensure that technological innovations respond to workers' needs, rather than requiring workers to adapt to new technologies that have been imposed on them. **Stakeholders thus highlighted the role of social dialogue, including worker participation, in technological change, and in boosting the human-centric dimension of Industry 5.0**

Stakeholders furthermore noted that under Industry 5.0 resilience should include not only the resilience of companies and their supply chains, but the resilience of workers as well. In this context, up- and reskilling came up several times in the discussion, as a key tool to preserve workers' employability and prepare them for labour market transitions. Finally, stakeholders found that environmental policies should account for both economic and social impacts, e.g. in terms of employment or working conditions. In this regard, the important contribution of the social partners to sustainability, for example by negotiating around Just Transition pathways, green jobs and green skills (including the green transition's impacts on employment, working conditions, health and safety), and related issues. Against this background, **social dialogue**

can help anticipate change, manage transitions and support workers and companies in these transformation processes, fostering both resilience and sustainability.

When it comes to the role of the social partners in relation to Industry 5.0 specifically, the **Opinion of the European Economic and Social Committee (EESC)** on “*Industry 5.0: how to make it happen*,” adopted in 2024, recognises worker participation and social dialogue as key enablers for the transition to Industry 5.0. In its opinion, the EESC maintains that social dialogue and worker participation are important for seizing the opportunities that Industry 5.0 creates. According to the EESC, this ensures that technology supports and empowers workers rather than replacing labour, that potential social costs can be mitigated while safety nets are available for displaced workers, that a fair redistribution of the underlying benefits of Industry 5.0 can be achieved, and that social dialogue can be opened across all sectors and levels, in that way ensuring a higher involvement of civil society in the Industry 5.0 transition.

In what follows, we elaborate on the key role of social dialogue, including collective bargaining and worker participation, in advancing Industry 5.0. Note that as the debates in the workshop and webinars mainly focused on human-centricity, based on the input from the stakeholders, this pillar is highlighted in the remainder of this policy brief.

Company-level social dialogue.

In the BRIDGES 5.0 project, a **company-centric approach** was used to understand the transition towards Industry 5.0, underlining the role of companies, and their management, as drivers of this transition (Oeij et al., 2023). Company-level social dialogue is therefore highly important because it directly addresses the impacts of the transition on the workplace and workers, according to the stakeholders consulted. It allows workers and employers to jointly tackle concerns, build trust, and develop mutually beneficial solutions.

The stakeholders consulted in the BRIDGES 5.0 project highlighted **worker participation as a central element of successful technological transformation**. Both direct and indirect forms of participation were mentioned as shaping the adoption of new technologies. This view is aligned with recent research, which finds that worker participation improves technological implementation by **increasing worker buy-in, trust and awareness**, while ensuring a **better alignment between technological solutions and workplace realities** and contributing to **organisational success** (Vereycken et al., 2021; Nurski, 2025). Research, furthermore, suggests that workers are **more engaged and productive** when they experience a sense of purpose and can help shape their work environment (Vereycken et al., 2021; Nurski, 2025). In contrast, organisational change and new technologies are often met with resistance when workers are not involved. Human-centred approaches, which are at the core of Industry 5.0, recognise that **workers possess valuable practical knowledge and experience that can contribute to more effective organisational solutions**.

The discussions with stakeholders further highlighted the importance of safeguarding **workers' well-being amid organisational and technological change**. According to the stakeholders, changes in organisational structure and processes, alongside the adoption of new technologies, can lead to uncertainty, stress, and disengagement among workers, as these are often associated with changes in work organisation, autonomy, and the quality of work. Stakeholders further argued that workers are more likely to embrace change when they understand its purpose, perceive clear benefits, feel they have a stake in it and can be trained

for it. According to the stakeholders, creating meaningful work, strengthening workers' sense of ownership, and demonstrating the value that a new technology can bring to them and the company, are thus essential for successful implementation.

During the workshop and webinars, stakeholders also expressed **concerns about the risks associated with excessive or passive reliance on new technologies, in particular AI**, as this may reduce learning opportunities, memory retention and well-being among the workers involved. Technologies should provide information and support decision-making processes, but humans should remain in control.

In order to address these issues, **employers** should promote meaningful worker participation, assess and address job quality impacts of technological and organisational changes, support learning and skills development, and see that new technologies are aligned with workplace realities and that humans remain in control. **Trade union representatives**, similarly, should encourage worker participation, share information with workers, see that workers get access to training opportunities, and safeguard workers' health, safety and well-being. Together, the trade union delegates and the employer should work to **strengthen social dialogue within their organisation, by creating opportunities for open debate, ensuring transparency, and building trust**.

Box: Kirchhoff Automotive Ireland as an example of the importance of strong social dialogue and worker participation at the company level³

Kirchhoff Automotive Ireland demonstrates how strong social dialogue and worker participation can drive long-term organisational change that benefits both the company and its workers. In 2010, management, SIPTU trade union representatives and employees created a joint union-management steering committee to improve communication, skills, quality and competitiveness through partnership rather than conflict. As a result, employees were actively involved in decision-making, problem-solving and continuous improvement initiatives, leading to greater trust, autonomy and shared ownership of workplace changes. Over time, this more collaborative approach reduced hierarchical management structures, empowered workers to self-organise, and supported digital transformation through training and upskilling. The example of Kirchhoff Automotive Ireland shows that sustained union-management cooperation can enhance both business performance and job quality while giving workers a meaningful voice in shaping the future of work.

Sector, regional and national level social dialogue.

Beyond the company level, the BRIDGES 5.0 stakeholders underlined that social partners and social dialogue play a key role in **advancing Industry 5.0 at the sectoral, regional, and national levels**.

Sector-level actors, such as **sector-level social partners and bipartite sectoral bodies** (e.g. sectoral funds addressing employment and skills, sector federations), are particularly well placed to set common standards and manage shared issues, for instance, the impacts of the green and digital transitions in a sector, restructuring, and labour and skills shortages. In the context of Industry 5.0, stakeholders mainly pointed out that sectoral bodies contribute to **up- and reskilling**, supporting companies and workers, by **anticipating and monitoring**

³ For a full description of the case study, see <https://bridges5-0.eu/kirchhoff-case-study/>

changing skills needs and by making a **suitable training offer (tailored to the sector) available in response to changing needs**. As education systems struggle to keep pace with changing labour market demands and the accelerating technological change, social partners are playing a growing role in ensuring that training remains relevant and responsive to industry's needs, according to consulted stakeholders. Furthermore, training opportunities are often unevenly distributed, with workers in small- and medium-sized companies having fewer opportunities than others. Sectoral bodies can help to address such inequalities.

Similarly, through their involvement at the **regional and national levels**, such as participating in regional training bodies, innovation clusters or ecosystems, the social partners can help to shape the conditions in which companies and workers operate, coordinate efforts across both companies and sectors, and offer advice to policymakers on how to advance the Industry 5.0 transition. This important coordinating role of such networks and bodies is further elaborated on in upcoming BRIDGES 5.0 research. It was less explicitly addressed by the stakeholders consulted in the workshop and webinars.

Within the BRIDGES 5.0 project, the role of the social partners in supporting the uptake and the scaling up of the **Teaching and Learning Factories** approach has also been recognised. Engaging social partners in these innovative learning models – which connect education with industry – helps to boost their visibility and uptake. Social partners can do so by contributing to the design of training modules or curricula, being involved in the monitoring and evaluation of these models, sharing information about them among companies and workers, etc.

Of final note here is the **Industry 5.0 Community of Practice**, launched in November 2023, and which currently counts over 350 members, including companies, social partners, training providers, public authorities, civil society organisations, regional clusters of innovation actors, research institutes (including several representatives from the BRIDGES 5.0 project). Its aim is to bring together a wide range of actors to exchange knowledge and share good practices, in order to translate Industry 5.0 from vision to action. By involving stakeholders at the company, sectoral, regional and national levels, the Community of Practice helps to make Industry 5.0 more concrete by offering specific examples and advice on what can be achieved and why it matters to companies, workers, and society at large.

To deliver on Industry 5.0, social dialogue should be strengthened, for example by reinforcing the **role of sectoral and regional bodies** in which social partners play a role, so that major issues relating to working conditions, occupational safety and health, employment, and skills, could be taken up in social dialogue. In addition, closer collaboration with public authorities, training centres, etc. will allow knowledge sharing and improve coordination both within and across sectors, in that way improving resilience.

Key challenges for social dialogue around Industry 5.0.

Despite broad consensus among stakeholders consulted in the BRIDGES 5.0 project on the critical role of social partners in shaping Industry 5.0, a number of challenges were identified that could limit the role of social dialogue in shaping this transition.

A first challenge concerns **safeguarding worker participation** at the company level. Despite Industry 5.0's emphasis on human-centricity, the stakeholders highlighted that **technological and organisational changes are often implemented in top-down decision-making**, while

workers, and their elected representatives, are often informed or involved only after the main decisions have already been made. In such cases, worker participation risks being symbolic, undermining trust and may lead to resistance to change. In the BRIDGES 5.0 webinar targeting managers, several managers shared experiences from their own company or sector about the risks of overlooking the human and organisational aspects during technology adoption. Managers shared that in practice, this often led to insufficient worker engagement, additional training requirements, and a need to further tailor organisational practices or processes, etc.

A second challenge is the **limited attention paid to the social dimension of technological change**. Discussions on digitalisation and artificial intelligence tend to be framed in terms of productivity and competitiveness, whereas questions around job quality, worker well-being, employment relations, and related topics are overlooked. Industry 5.0 aims to overcome this issue by putting human-centricity at its core, but stakeholders agreed that this point requires continuous attention. Some stakeholders, therefore, felt that Industry 5.0 ultimately depends on broader **cultural change**, in which human-centricity and worker participation become part of the day-to-day culture of an organisation and are embedded in all its practices and processes.

A third challenge raised by the stakeholders consulted in the BRIDGES 5.0 project is that meaningful social dialogue requires time, resources, **and institutional capacity**. Worker participation, consultation and negotiation may slow down decision-making processes at the company and sectoral levels. In addition, social partners need to establish a shared vision, trust, a culture of open communication and willingness to collaborate among them. Employers' organisations and unions need to **build capacity to negotiate effectively on new technologies and their economic and societal impacts**, as stated by the consulted stakeholders. Finally, stakeholders agreed that further efforts are needed at all levels to ensure well-functioning social dialogue. To ensure that social dialogue is an effective mechanism advancing the Industry 5.0 transition, certain preconditions must be met, e.g. representativeness of unions and employers' organisations, institutional support, access to information, technical expertise, resources, and early involvement. At the moment, significant variation exists across the European Union on this front.

What does this mean for policymakers?

The findings of the BRIDGES 5.0 project, and the related academic and grey literature, **make a clear case for the important role of social dialogue in advancing Industry 5.0**. The project further shows that meaningful **worker participation** is a key condition for sustainable, human-centric and socially legitimate technology adoption. EU and national social partners – trade unions and employers' organisations – serve as **key actors shaping the transition towards a more inclusive, human-centric and sustainable future**, in which workers and companies are **resilient in withstanding the impact of global trends** such as technological transformations, demographic ageing, climate change and global supply chain disruptions resulting from geopolitical tensions. Social dialogue helps improve Industry 5.0 outcomes, as it creates structured channels for knowledge exchange, joint problem diagnosis, trust-building, skills anticipation, conflict resolution and negotiated adjustment. These mechanisms improve the fit between technologies, organisational practices and workers' needs, thereby improving adoption, job quality and resilience.

However, this is not automatic. A precondition for an effective social dialogue around Industry 5.0, therefore, is the existence of **strong and constructive industrial relations** at all levels. Meaningful worker participation can only be guaranteed if information is shared early on and in a transparent way, and if workers and union representatives are involved. Trade unions and employers' organisations need to build relationships based on mutual trust and a shared commitment to the principles at the heart of Industry 5.0. This requires efforts and a long-term commitment from both trade unions and employers' organisations. Industry 5.0 should, therefore, be embedded into the **long-term planning and collective bargaining agendas at the national, regional and sectoral levels**, so that social partners across all levels can **develop a shared vision** on it. This vision should then be translated into **concrete actions**, which can be **implemented, monitored, evaluated and reshaped** as needed.

These findings lead to the following recommendations for **EU and national policymakers and social partners**:

Institutionalise social partners in Industry 5.0 governance: Unions and employers' organisations should not be seen as mere stakeholders in the transition towards Industry 5.0, but rather as key actors playing an active role in shaping and delivering it. Taking this as a starting point, policymakers at EU and national levels should engage with social partners on these topics and enable both trade unions and employers' organisations to contribute to the Industry 5.0 transition. To this end, social dialogue should be systematically embedded into the policies, initiatives, frameworks, and strategies targeting Industry 5.0. Furthermore, unions and employers' organisations should be included as key partners in Industry 5.0 strategic bodies, as is the case in the Industry 5.0 Community of Practice.

Embed Industry 5.0 in social dialogue agendas and ensure follow-up: Despite growing awareness among social partners, Industry 5.0 is currently not yet addressed in a systematic way in social dialogue across the national, regional, sectoral and company levels. This is important, however, as Industry 5.0 may still be seen as an abstract concept, so embedding it into concrete bargaining topics (e.g. skills, occupational health and safety, organisation of work), can help to make it operational for companies and other actors playing a leading role in the Industry 5.0 transition. While some good practices were shared by BRIDGES 5.0 stakeholders, it became clear that Industry 5.0 is not always addressed as part of the debate on the digital and green transitions. In some cases, the topic of Industry 5.0 is on the social partners' agenda, see e.g. the EESC Opinion, but its follow-up is unclear. Further efforts are, therefore, needed to put Industry 5.0 into practice. Policymakers should encourage structured follow-up mechanisms so that agreements, opinions and declarations lead to implementation, monitoring and evaluation.

Reinforce sectoral and regional social dialogue on Industry 5.0: As global megatrends like climate change and technological transformations have uneven impacts across sectors and regions, sectoral bodies such as sectoral social partner organisations, bipartite sectoral funds and sectoral federations, as well as regional bodies such as local or regional ecosystems and networks, are key actors in shaping the impacts of such transitions. This means that sectoral and regional actors are also at the forefront when it comes to advancing Industry 5.0, through their role in shaping training programmes, exchanging best practices across companies, etc. These actors can help ensure that worker well-being and job quality are prioritised and see that economic and societal goals are both met in industrial policies and strategies. To further strengthen this role, policymakers should support sectoral and regional networks, bodies and observatories tracing labour market transitions, changing skills

needs or technology impacts. EU-level organisations, like Eurofound, EU-OSHA, ELA, FRA, ETF and Cedefop, also have a key role here, by making available data, insights, case studies and practices targeting these topics at the supranational, national, regional and sectoral levels.

Build social partner capacity for Industry 5.0, AI and organisational change: As the technological transformation accelerates, and new technologies like AI are becoming increasingly complex, unions and employers' organisations need to develop knowledge and expertise to be able to meaningfully engage in social dialogue around these technologies and their impacts and help shape the Industry 5.0 future. The EU and national policymakers should fund capacity building programmes for these organisations. This can be achieved through dedicated training, access to independent expertise, knowledge-sharing platforms (e.g. see the BRIDGES 5.0 platform on Fresh Thinking Labs), networks, etc. A critical effort in this context is the establishment of the Industry 5.0 Community of Practice, which should be further supported. In addition, EU-level bodies as Eurofound, EU-OSHA, ELA, FRA, ETF and Cedefop, need to offer their continued support to policymakers and practitioners in this area, by making knowledge and data available. They are critical to help bridge gaps where social dialogue is fragmented, weak, or lacking institutional support. Policymakers, moreover, should foresee funding for social partners to build capacity in the area of AI and digitalisation, notably within the framework of the upcoming Quality Jobs Act.

Guarantee early and meaningful worker participation in technology adoption: Companies should involve workers from the start in technology adoption processes, and should continuously involve workers in such processes, as this builds trust and mitigates resistance. Workers should be able to have their say in the design, implementation, monitoring, and evaluation of new technologies, also considering the impact that these may have on not only on their work, but also on their health, safety and well-being. To ensure that workers can be heard, policymakers and social partners should promote workplace participation structures such as work councils, health and safety committees, and trade union delegations, while also supporting direct participation and sectoral guidance in SMEs where formal structures are absent. Finally, collective labour agreements that call for worker consultation should be supported.

Monitor Industry 5.0 outcomes through job quality and participation indicators: Industry 5.0 strategies should not be assessed only through innovation, productivity or technology uptake indicators. Policymakers should also monitor whether technological transformation improves job quality, skills access, occupational safety and health, worker autonomy, inclusion, social dialogue and human oversight. This would make the human-centric ambition of Industry 5.0 measurable and prevent it from remaining rhetorical.

Conclusions.

The social partners, i.e. trade unions and employers' organisations across all levels, emerge as **key actors in the transition towards an Industry 5.0 future in the EU**. More specifically, in order to bring Industry 5.0 from vision to action, a joint commitment to making workplaces more human-centric, resilient and sustainable, and to supporting workers in becoming better prepared and more resilient to the impacts of global trends is needed. Social dialogue plays a fundamental role here, as it balances the interests of workers and employers, and considers impacts at the individual, group, workplace, sectoral and societal levels. Moreover, as ample research highlights that outcomes depend on how technologies are implemented in practice,

worker participation should be embedded within technology adoption processes. Through collective bargaining, worker participation, skills initiatives and joint problem-solving around technological and organisational change, social partners help translate the principles of Industry 5.0 into concrete workplace practices and sectoral actions. Their role is not only to accompany the transition, but to actively shape how Industry 5.0 is implemented in practice to make it a success.

Further reading.

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Oeij, P., van Rhijn, G., van Dijk, W., & Krause, F. (2023). *D1.1 Conceptual framework of Industry 5.0 to study workforce skills. WP1* (p. 56).

Papacharalampopoulos, A., & Dhondt, S. (2025) *D5.2 Scaling the Teaching Factory 5.0 for a Competitive, Human-Centric, Sustainable and Resilient Europe. WP5* (p. 12).

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BRIDGES 5.0 PROJECT IDENTITY

Project name	BRIDGES 5.0 Bridging Risks to an Inclusive Digital and Green future by Enhancing workforce Skills for industry 5.0
Coordinator	Prof. Dr Steven Dhondt (scientific coordinator). Nederlandse Organisatie Voor Toegepast Natuurwetenschappelijk Onderzoek (TNO), (Netherlands)
Consortium	Katholieke Universiteit Leuven Austrian Institute of Technology Panepistimio Patron (Patras University) Conservatoire National des Arts et Métiers, Centre d'Études de l'Emploi et du Travail-Lirsa Departamento de Educacion del Gobierno Vasco The University of Warwick Technische Universität Dortmund Stichting Platform Beta en Techniek Mondragon Goi Eskola Politeknikoa, Jose Maria Arizmendiarieta S Coop Lietuvos Pramonininku Konfederacija Universita degli Studi di Bari Aldo Moro Universitetet I Agder Workplace Innovation Europe CLG Comau SPA Infineon Technologies Austria AG UAB Kitron Industrie 4.0 Plattform Österreich Kriziu tyrimo centras (Hybridlab) FH Joanneum Gesellschaft MBH Kauno Technologijos Universitetas
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