POLICY BRIEF
No. 4, November 2026

Upskilling, reskilling and skills transitions in Europe

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HIGHLIGHTS

- Labour and skills shortages and mismatches present a critical challenge for Europe.
- Sustainable skills matching requires attention across the whole occupational pathway: entering an occupation, learning within it, developing expertise, adapting to technological and organisational change, and remaining in the occupation over time.
- Opportunities for (informal) learning, attention to transferable skills, job quality and organisational culture are crucial for the upskilling and reskilling of workers.
- Sustainable career transitions are possible, but workers currently carry the risk themselves. Institutional support for reskilling is necessary to share that burden.
- Action is needed at every level. EU and national policymakers should provide institutional support for reskilling. Meanwhile, employers, social partners, and trade unions at a sectoral level should promote learning and transferable skills, as well as good job quality.

Funded by
the European Union

1. The project

The **SkiLMeeT project** addresses one of the most critical structural challenges currently confronting European labour markets: widespread and persistent labour and skills shortages. Accelerated by the twin transitions—digital transformation (including artificial intelligence, automation and advanced coding) and green decarbonisation (such as sustainable building innovations and energy transition technologies)—the demand for technical, intellectual, and relational competencies across the European Union is undergoing profound redefinition.

To understand **why and how workers upskill and reskill in times of transitions, qualitative research was conducted as part of the SkiLMeeT project**. This **policy brief** summarizes the **key findings** from the qualitative occupational case studies and translates these findings into **recommendations** for policy makers at EU and national level, employers and social partners and trade unions at sectoral level. Ultimately, the aim is to support more accessible and sustainable pathways for lifelong learning and occupational mobility.

Qualitative case studies were performed across six EU Member States: **Bulgaria, Germany, Italy, Luxembourg, the Netherlands, and Poland**, representing diverse socio-economic regimes and industrial relations models across Europe. Case studies focused on **occupations with high labour shortages or high upskilling demands due to the digital and/or green transition**. In every country, we examined nurses and software engineers. Country-specific occupations included industry and construction workers (such as welders, technicians, steel production workers) and intellectual occupations (STEM teachers, journalists, hydrologists, and psychotherapists). The **central objective** of the project was to gain insight into the institutional, organisational and individual mechanisms that foster or hinder workers from keeping up with changing skills requirements (upskilling) and that foster or hinder sustainable transitions into these occupations (reskilling).

2. Key findings

Although the qualitative case studies show substantial differences in occupational qualification structures, labour-market position and working conditions, several common mechanisms emerge across the cases:

- **Skills are built through work, not only through qualifications**. In all studied occupations, workers develop much of the expertise they need through workplace learning, mentoring, supervision, peer exchange and learning by doing new tasks. This is especially visible in software and ICT, construction and technical occupations, nursing and the intellectual professions. Formal education and training provide an important foundation, but competence continues to develop through practice. Skills policies focused mainly on accredited training therefore risk overlooking a large part of skill formation. Opportunities to learn at work are also unequally distributed: high workloads, staff shortages, limited training budgets and a lack of protected learning time often make learning an individual responsibility, done in workers' own time or at their own expense (as among nurses, software professionals, teachers and psychotherapists). The challenge is not simply to encourage lifelong learning but to create working conditions in which upskilling is realistically possible.

- **Career transitions are possible, but workers often carry the risk themselves**. Career changers enter shortage occupations such as nursing and teaching from a wide variety of backgrounds, and their existing skills and experience can provide a basis for entry. However, institutional support varies considerably. Some cases show mechanisms that lower entry barriers, including dual learning trajectories and lateral-entry routes in Dutch nursing, traineeships in Dutch software development, corporate academies in Italian ICT and lateral entry into teaching in Poland. Elsewhere, transitions depend on personal networks, financial resources and self-directed learning. Where switchers must absorb all the costs and risks themselves, suitable candidates may never make the move. Policy should look beyond attracting workers and consider how transition risk is shared between individuals, employers, education providers and public institutions.

- **Transferable skills matter, but occupation-specific expertise still has to be developed**. Prior experience can bring valuable technical, analytical, relational, organisational and communication skills, and the construction, steel production, technicians, and welders cases show that transitions can improve the match between people and jobs when existing skills are recognised and learning after entry is possible. Transferability should not be read as free movement between occupations, however. Occupation-specific expertise develops gradually through experience, so mentoring, supervised practice, internships, onboarding, peer learning and progressively complex tasks play an important bridging role. The policy implication is to recognise what workers already know and provide structured opportunities to acquire the rest, rather than requiring them to repeat full qualification pathways unnecessarily.

- **Job quality is part of the skills policy**. Addressing shortages is not only a matter of increasing supply, because the ability to attract workers is closely tied to the ability to retain them. Autonomy, meaningful work, flexibility, supportive colleagues, development opportunities and employment security make staying in occupations attractive. Excessive workload, weak recognition, poor career prospects, emotional or physical strain, administrative burden and poor work-life balance undermine their sustainability. Many workers remain strongly attached to their occupations despite difficult conditions, drawing meaning from patient care, teaching, informing the public, environmental work or helping clients. This intrinsic motivation is a valuable resource, but it should not become a way of absorbing poor working conditions. Job quality and retention of workers must be treated as integral to tackling shortages, since expanding training or attracting career switchers will have limited effect if experienced workers leave or career switchers leave quickly.

- **Digitalisation and AI are changing expertise rather than simply replacing it**. Digital tools and AI affect all the occupational groups studied, most clearly software and ICT, but also journalism, education, hydrology, nursing and psychotherapy. The emerging transition is not just a demand for more digital skills: as routine tasks are supported or automated, professional judgement, critical thinking, system understanding, domain expertise, ethical awareness and the ability to evaluate technological outputs become more important. In software development, AI is already shifting work from producing code toward evaluating and supervising it. A key concern is the effect on learning pathways: respondents point to declining junior opportunities and the disappearance of the simpler tasks through which beginners traditionally gained experience. Technology policy and skills policy therefore cannot be con-

sidered separately, and organisations adopting new technologies must consider how future professionals will acquire expertise.

- **The green transition affects occupations unevenly**. Its effects vary substantially across the occupations studied. It directly shapes the content of, and demand for, work in Dutch technical occupations, hydrology and parts of construction and steel production, while the impact of the green transition is much less visible to workers in other cases. It should not automatically be equated with job or skills growth: workers may experience it as an opportunity, an incremental change to existing work, or a threat to employment and competitiveness. The Luxembourg steel case shows how decarbonisation, technological change and restructuring can occur simultaneously, requiring institutional mechanisms that support workers through change. This points to occupation- and context-specific transition strategies rather than uniform assumptions about the effects of either the digital or the green transition.
- **Institutional support determines who can successfully adapt**. The cases point to a broader distinction between transitions that are supported collectively and those whose risks are borne mainly by individuals. Where employers, educational institutions, collective agreements, professional communities or public policy provide structured entry routes, mentoring, training resources and chances to learn through work, transitions are more accessible. Where these mechanisms are weak, workers rely on personal finances, networks and individual initiative. This pattern cuts across occupations, appearing in informal construction employment, self-directed learning among ICT workers, privately financed development among psychotherapists, uneven training support for nurses and teachers, and the role of restructuring-related social dialogue in Luxembourg steel and ICT. The core policy question is therefore not only which skills workers need, but who provides the conditions, resources and opportunities through which skills are acquired, used and maintained.

Overall, from skills shortages to sustainable skills ecosystems, no single solution exists for labour and skills shortages. Expanding education and training remains important but is insufficient on its own. Sustainable skills matching requires attention across the whole occupational pathway: entering an occupation, learning within it, developing expertise, adapting to technological and organisational change, and remaining in the occupation over time.

3. Policy Recommendations

The findings point to one overarching message: addressing labour and skills shortages takes more than expanding the supply of qualified workers. People can successfully move into shortage occupations, but transitions are easier and more sustainable when workers have access to learning pathways, workplace learning opportunities, good job quality, and financial security. At the same time, solving shortages requires attention not only to recruitment and reskilling but also to job quality and retention. The recommendations below follow from these findings and are grouped into four target groups: policy makers at EU and national level, employers and social partners and trade unions at the sectoral level. Together, the recommendations aim to make skills matching sustainable across the whole occupational pathway, from entry to learning, adaptation and retention.

3.1. EU policy level

- **Make workplace learning a core element of EU skills policy**. Across the cases, informal and workplace learning, peer exchange, mentoring, supervision and learning-by-doing were among the most important ways workers developed and upgraded their skills. Lack of time was a recurring barrier for upskilling. For some workers, this meant not upgrading their skills. For other workers, this meant learning in their own time. EU funding and programmes could incentivise Member States and sectors to provide protected, paid learning time. Workplace learning, mentoring and supervision should be considered as necessary elements within EU-supported upskilling and reskilling programmes. Also, more structured measurement of participation in workplace and informal learning and skills validation alongside participation in formal education and training could be encouraged.
- **Support career transitions to occupations with shortages and make them less financially risky**. Our research suggests that income is not necessarily the main reason people change careers, but financial security during the transition is a prerequisite, particularly when workers need to retrain or temporarily accept a more junior position. Formal paid learning-work trajectories, such as those observed in Dutch nursing, can substantially lower this barrier. EU policy and funding could prioritise paid reskilling initiatives into shortage occupations in Member States and encourage Member States to combine training support with income security rather than financing training costs alone. Particular attention should be given to mid-career workers with mortgages, children, or other financial responsibilities who cannot afford an unpaid transition.
- **Promote skills-first approaches to occupational mobility**. Career switchers often bring valuable relational, analytical, technical and organisational capabilities, even if they lack the conventional qualification or occupational background. At the same time, occupation-specific expertise still has to be acquired after entry. EU policy can encourage skills-based recruitment and recognition of transferable skills by supporting approaches that validate previously learned skills (including informally learned skills), combine recognition of prior experience with targeted bridging programmes, and treat successful occupational transitions (rather than training participation alone) as an important indicator of skills-policy success.

3.2. National policy level

- **Expand structured apprenticeships and graduate pathways in shortage occupations**. Because much expertise is built through supervised practice rather than formal education alone, career changers need routes that combine both. Cases with dual learning trajectories, traineeships, and lateral-entry routes, such as Dutch nursing and software development, suggest these lower entry barriers. Governments could therefore fund apprenticeship places with clear progression to qualified status and consider wage subsidies for first-time hires, with employers and education providers delivering them. This would give newcomers a supported way in and reduce reliance on personal networks.
- **Reduce the financial risk of career transitions for individuals**. Career changers enter shortage occupations from various backgrounds, but where they must absorb the costs, learning requirements and employment risks themselves, suitable candidates may never make the

move. If national policy aims to draw on this potential, it needs to address who carries the risk. National governments, together with employers, could explore transition grants, part-paid training or reduced-target probationary periods, so that the decision to switch does not depend on an individual's savings.

- **Recognise the transferable skills of career changers**. Prior experience brings technical, analytical, relational, organisational and communication competence, and transitions work better when these skills are recognised. The Industry & Construction cases show that transitions can improve the match between people and jobs when existing skills are recognised and opportunities to learn after entry are available. Public employment services and sector skills bodies could develop skills-mapping tools that match competences across occupations and take prior experience into account alongside formal credentials. This would allow career changers to build on what they know and concentrate on what they still need to learn.
- **Extend funding to workplace-based learning**. Informal and on-the-job learning, mentoring and learning by doing are central to skill formation. Funding that supports only accredited education and training courses overlooks a large part of how skills are acquired. National governments and industry bodies should therefore widen training levies, grants and tax credits to cover time, budget and opportunities for on-the-job learning as well, so that public funding better reflects how expertise actually develops.
- **Track skills-match outcomes**. The cases show that support for transitions varies widely, but there is little systematic evidence on which routes work and for whom. Governments and research institutions could follow career changers over time to assess job fit, progression and wage outcomes. This would allow the measures above to be adjusted as evidence accumulates.

3.3. Employer level

- **Learning on the job and job quality improve retention of existing workers**. Increasing training capacity or attracting career changers will have limited long-term impact if experienced workers leave because of unsustainable conditions. Experienced workers are also the main source of mentoring and supervision for newcomers, so losing them weakens learning as well as capacity. Employers should consider creating more opportunities for career learning and development, fair pay and manageable workloads as part of their response to shortages, rather than treating retention as a separate HR matter. The cases suggest that autonomy, recognition, flexibility and supportive colleagues matter alongside pay.
- **Recruit for potential and provide learning opportunities as people enter the new occupation**. Shift recruitment from credentials and previous job titles to transferable skills and learning potential, and support newcomers in gradually developing occupation-specific expertise. Employers and education providers could offer short bridging courses, structured onboarding, and supervised practice and mentoring to address the gap between existing and required skills. This responds directly to the finding that transitions succeed when recognition of prior skills is combined with opportunities to learn after entry, and it avoids full qualification pathways where they are not needed.

- **Build peer support structures**. Peer exchange is one of the main ways workers learn, yet in several occupations learning is an individual responsibility carried out in workers' own time. Employers should be encouraged to establish peer mentoring, buddy systems, learning circles and team-based reflection, with time set aside for them. Treating learning from colleagues as part of the job recognises how expertise develops and reduces the pressure on individuals.
- **Support early-career development**. Early-career workers are the most exposed to the problems identified above: they have the most to learn, the least influence over their workload, and, where technology removes simpler tasks, fewer opportunities to build experience. Employers, with professional bodies, could provide structured feedback, a gradual increase in responsibility and recognition of progress through milestones or micro-credentials. This helps early-career workers see a path forward, which supports both learning and retention.

3.4. Trade unions and social partners at sectoral level

- **Negotiate the inclusion of protected learning time into job design**. Work towards protected learning time in collective agreements and sectoral training funds. The finding that high workloads and staffing shortages push learning into workers' own time suggests that encouragement alone is not enough. Unions could negotiate minimum hours for mentoring, supervised practice and task rotation, with employers implementing them. Setting this down collectively would make learning at work a shared expectation rather than something left to what time remains.
- **Support professional communities**. Workers in small firms, and those who change careers, often lack internal sources of support and rely on personal networks. Unions, professional associations and public funders could back occupational networks and communities of practice. These can give newcomers access to shared knowledge and role models across employers, and complement what any one workplace can offer.
- **Strengthen long-term occupational commitment**. Many workers stay attached to their occupations because the work is meaningful, but this motivation should not become a way of absorbing poor conditions. Unions and professional bodies could present both the rewarding aspects of an occupation and its realistic working conditions. People who enter with accurate expectations are more likely to stay, which links recruitment back to retention.
- **Build sector-wide pathways into shortage occupations**. Develop recognised routes into shortage occupations combining skills assessments, recognition of prior experience and training opportunities. The route should include both formal training and learning on the job with supervised practice and mentoring. Trade unions and social partners can also promote workplace cultures in which career switchers and other newcomers are accepted and supported.

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This project, SkiLMeeT, has received funding under the Horizon Europe programme. Views and opinions expressed are however those of the authors only and do not necessarily reflect those of the European Union or the European Research Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

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