



How artificial intelligence contributes to competitiveness and workforce planning

AI and soft skills: Evidence from EU job postings

Fact Sheet #15

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Table of Contents

»» Introduction	—————→	Page 3
»» The importance of soft skills for AI	—————→	Page 3
»» Methodological approach to comparing soft skill demand in AI and non-AI job postings	—————→	Page 4
»» Most relevant soft skills in AI job postings	—————→	Page 5
»» AI specificity ratio	—————→	Page 6
»» Conclusion	—————→	Page 8
»» Literature	—————→	Page 9

Introduction

The influence of AI on the EU labour market has risen substantially in recent years. In 2025, 1.7% of job postings in the EU required in-depth AI knowledge – starting from 0.7% in 2022 (Büchel et al., 2026a). **In-depth AI knowledge goes beyond the general AI knowledge required to use AI applications effectively**, instead enabling employees to develop or adapt AI-based solutions themselves, for example. The demand for in-depth AI skills is measured based on explicit mentions of AI-related terms in online job postings – ranging from core AI concepts such as “machine learning” to the names of specific AI tools, frameworks or libraries – identified via a multilingual, rule-based classification model applied across all EU countries (Büchel et al., 2026a). The growing share of job postings with in-depth AI knowledge indicates that AI-related requirements have become more prominent in labour market demand. From the perspective of job seekers and the education and vocational training system, it is important to analyse the specific AI-related skill demand. This includes not only technical skills, for developing AI applications, for example, but also skills that complement AI use at work.

The importance of soft skills for AI

In general, skill requirements can be classed as occupation-specific, sector-specific or transversal. In contrast to occupation- or sector-specific expertise, transversal skills can be applied in a variety of occupations and work settings. Within the group of transversal skills, the European Skills, Competences, Qualifications and Occupations (ESCO) taxonomy further distinguishes cognitive and technical competences, such as digital or language skills, from personal, social and behavioural skills, such as teamwork or leadership, commonly referred to as “soft skills” (European Commission, 2026a). Soft skills are particularly relevant for study in the context of AI, as AI can automate or augment some cognitive and technical tasks that are inherently codifiable, while personal, social and behavioural competences remain comparatively difficult to automate and are therefore more likely to complement rather than be substituted by AI (Deming, 2017). Against this backdrop, **analysing the soft skills that complement AI use at work and were required in job postings alongside in-depth AI knowledge could give valuable insights into the characteristics of typical AI skill profiles**. Comparable evidence already exists for individual countries, for example the United States, the United Kingdom and Australia (Mäkelä et al., 2024). However, a comparable analysis of soft skills that complement AI use for the EU has been missing to date. This fact sheet aims to close this gap by providing EU-wide evidence on the most relevant soft skills in AI job postings and the ones showing the highest AI specificity.

Methodological approach to comparing soft skill demand in AI and non-AI job postings

The analysis is based on a dataset from Lightcast that contains the full texts of approximately 34 million job postings that were advertised in the 27 EU Member States in 2025. The full texts provide information about soft skill demand. These skills were extracted by Lightcast according to the ESCO skill taxonomy using machine learning models. In total, 101 different soft skills were identified in the EU job postings with varying frequencies. As with online job postings generally, these data capture the skills that employers state they require. They are not necessarily identical to the skills applied in practice and could underrepresent smaller firms, which often have less capacity to articulate detailed skill requirements (JRC, 2024). Nevertheless, job postings remain a well-established and widely used source for identifying labour market skill demand at scale, as they capture current employer signals across a very large number of vacancies and occupations – an important complement to traditional survey-based instruments, especially for detecting emerging and fast-changing skill needs such as those linked to AI (Cedefop, 2019).

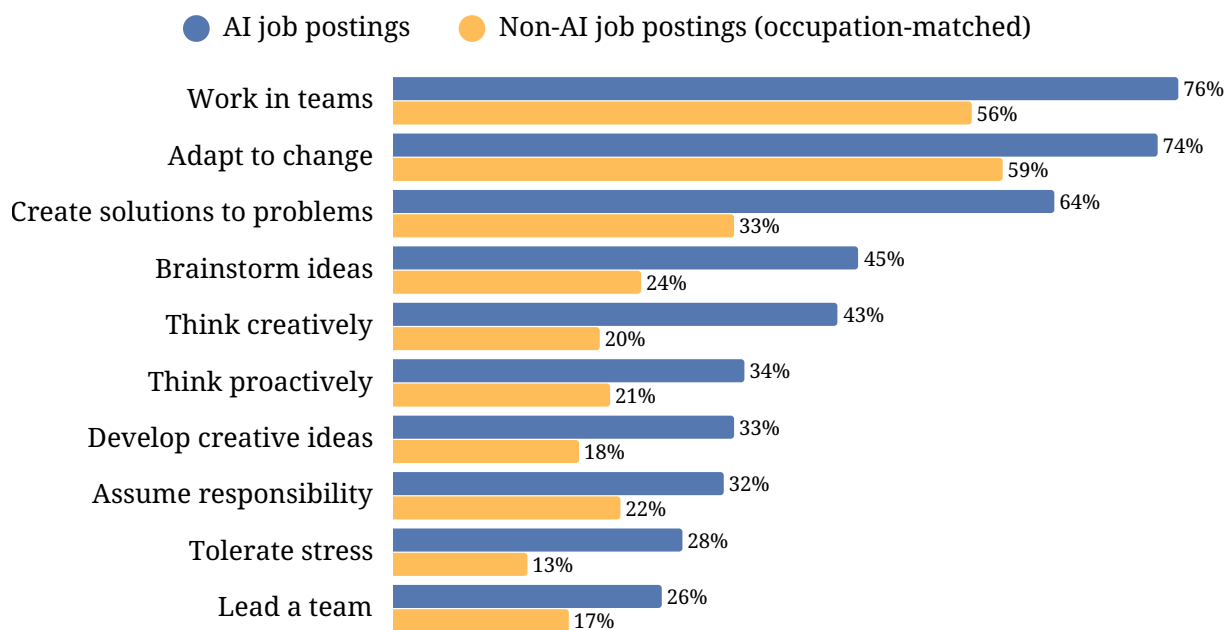
However, simply comparing soft skill demand in AI-related and non-AI-related job postings would produce biased results because AI job postings are disproportionately concentrated in expert-level occupations. In 2025, about 80% of AI job postings were advertised in expert-level occupations, such as managers, professionals or scientists, compared with only 32% of non-AI-related job postings. As the analysis of all job postings shows that expert-level jobs usually require more soft skills, a comparison of AI and non-AI job postings would conflate AI-specific skill demands with the soft skills that expert-level jobs demand generally.

To correct this bias, an occupation-matching approach was applied: the distribution of non-AI job postings was weighted so that their occupational and skill-level structure mirrors the distribution of AI job postings. Specifically, occupation-matching was carried out at the level of ESCO L2 occupation groups (European Commission, 2026b) combined with International Standard Classification of Occupations (ISCO) skill levels (ILO, 2012), aligning both the broad occupational field (e.g. ICT professionals, sales occupations) and the skill level (e.g. expert versus elementary-level occupations) between AI and non-AI job postings. This is necessary because, even though soft skills are transversal in principle, distinct patterns in soft skill demand can still emerge across specific occupation groups. For example, ICT professionals are often expected to demonstrate analytical and problem-solving skills, while occupations in sales, care, trades or transport more often require interpersonal skills (Handel, 2016). As the analysis shows that ICT professionals alone accounted for 35% of all EU AI job postings in 2025, but for only 6% of non-AI job postings, this could distort a comparison. The occupation-matching approach therefore upweights expert-level ICT occupations in the non-AI comparison group, for example, making it possible to compare soft skill demand between AI and non-AI job postings while reducing differences attributable to their occupational and skill-level composition. Nevertheless, it should be mentioned that, after weighting, the non-AI baseline reflects the skill demands of comparable professional roles, not the average EU job posting.

Most relevant soft skills in AI job postings

Building on this comparable baseline, Figure 1 shows which soft skills are most relevant in AI job postings and how the frequency of these skills differs from the occupation-matched non-AI reference group.

Figure 1: Share of AI job postings and non-AI job postings* requiring certain soft skills in the EU-27; 2025



Source: German Economic Institute based on data from Lightcast

* Non-AI job postings were occupation-matched to AI job postings (see methodology above).

Teamwork and adaptability to change were each mentioned in roughly three out of four AI job postings. The latter skill is consistent with the finding that AI can increasingly reshape the task composition of jobs: some tasks are taken over by AI, while others remain with employees who are supported by AI and made more efficient (Acemoglu/Restrepo, 2018). Given this disruptive potential of AI at the task level, it is plausible that employers expect employees to adapt to change. In addition, creativity is a core component of the soft-skill profile associated with AI roles: employers often expect candidates to create solutions to problems (64%), brainstorm ideas (45%) and think creatively (43%). This might reflect the fact that, although AI tools are typically well-suited to take over routine tasks, non-routine problems still require employees to identify suitable AI-based approaches, adapt existing ones or develop new ones, for example. This is consistent with the finding that automating routine tasks raises employer demand for social and creative skills that are harder to codify (Deming, 2017) – a pattern that AI job postings appear to reinforce. Similar frequency patterns for analytical and creative problem-solving skills have also been documented for AI job postings in the US, the UK and Australia (Mäkelä et al., 2024).

Other soft skills that were frequently required in AI job postings included **proactive behaviour, responsibility, stress tolerance and leadership skills**. This could indicate that AI adoption increasingly involves managerial responsibilities. In many organisations, the rollout of AI tools is coordinated by senior management to ensure compliance with internal governance principles and to align AI use with strategic business goals, rather than being left to individual employees or IT departments alone. In Germany, for example, an analysis of job postings from 2025 shows that AI skills are not only relevant at the specialist level but also within leadership positions where AI governance is strategically decided and implemented (Büchel et al., 2026b). This pattern extends across the EU: a recent cross-country analysis of AI job postings in eight EU Member States finds that AI governance responsibilities are concentrated in senior and leadership positions, with explicit links to regulatory compliance under the EU AI Act (Regulation (EU) 2024/1689; Official Journal of the European Union, 2024; AxiPro, 2026).

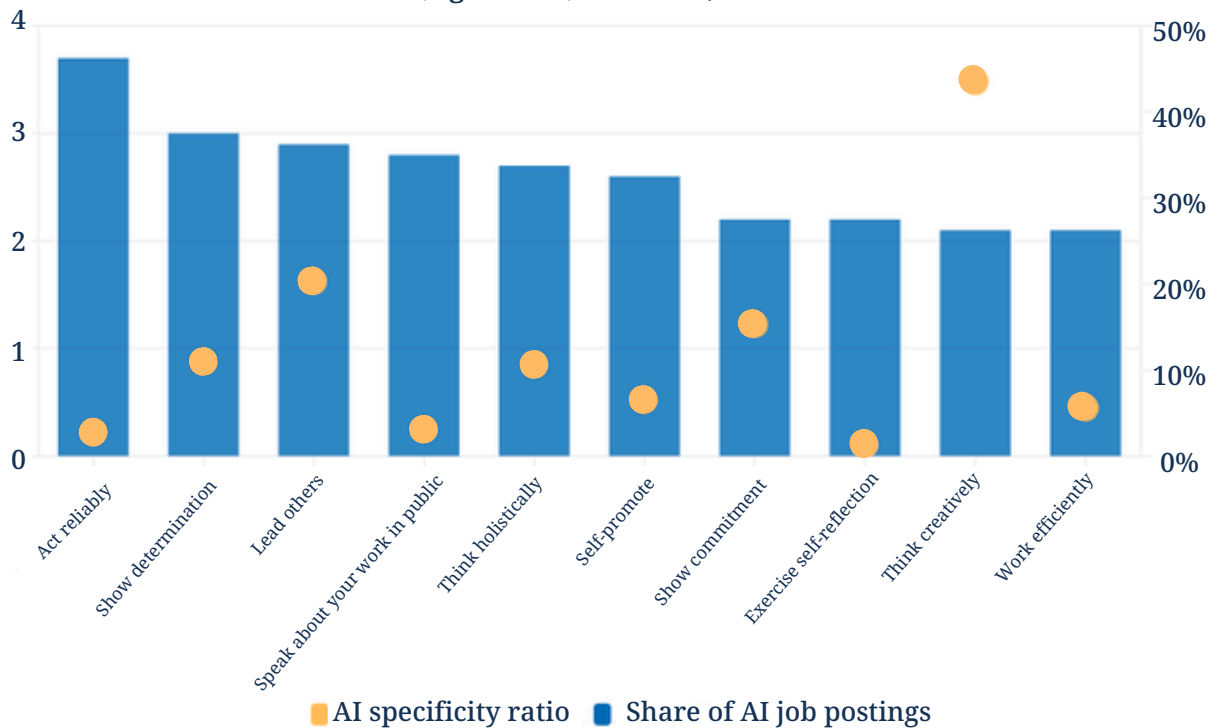
Overall, the ten most relevant soft skills in EU AI job postings were mentioned considerably more frequently than in the non-AI reference group, with the largest differences observed for creative soft skills.

AI specificity ratio

Yet frequency alone does not reveal which skills are most AI-specific. It is therefore valuable to look at the soft skills with the highest AI specificity ratio, which is defined as the ratio of skill frequencies in AI and non-AI job postings. **A higher AI specificity ratio might not reflect the most relevant soft skills but indicates the most AI-specific ones.** For example, a soft skill expected in only a small share of AI job postings can still have a high AI specificity ratio if it is rarely required in non-AI job postings, whereas a skill expected frequently in AI job postings may have a lower AI specificity ratio if it is similarly common in non-AI job postings. For this analysis, only soft skills that appear at least 10,000 times in AI job postings were considered to ensure that the AI specificity ratio was not driven by skills that occur rarely, focusing instead on soft skills that were both sufficiently frequent and AI-specific. Figure 2 shows the ten soft skills with the highest AI specificity ratio, along with their share of AI job postings.

Self-driven traits (e.g. reliability, determination, commitment, self-reflection), leadership skills (e.g. lead others, think holistically) and outward-facing skills (e.g. speak about your work in public, self-promotion) show the highest AI specificity ratio (Figure 2). The expected frequency of reliability in applicants is nearly four times higher in AI than in non-AI job postings. However, this high specificity does not imply that this skill is frequent: reliability appears in only 3% of AI job postings, compared to 20% for leading others or 43% for thinking creatively, for example. This illustrates that specificity and frequency are two distinct dimensions: a skill can be a strong signal of AI-relatedness without being a widespread requirement. One possible explanation for the high AI specificity of reliability could be the fact that when employees use AI to solve company problems or to improve processes, high reliability is expected, as the complexity of AI is usually not straightforward and thus the expectation is that especially technically specialised employees should be trustworthy. Undetected errors in AI-based decisions can be costly to correct, as flawed AI outputs may only become visible once they have already influenced downstream business processes – a concern also reflected in the EU AI Act's requirements on accuracy, robustness and error tolerance for high-risk AI systems (Official Journal of the European Union, 2024, Article 15).

Figure2: AI specificity ratio* (left scale) and share of AI job postings (right scale) in the EU; 2025



Source: German Economic Institute based on data from Lightcast

* The AI specificity ratio is defined as the ratio of soft skill frequencies in AI and non-AI job postings. Non-AI job postings were occupation-matched to the AI job postings (see methodology above). Only soft skills occurring at least 10,000 times in AI job postings were considered.

Employees with in-depth AI knowledge often act as intermediaries who translate technical AI capabilities into actionable information for management, for example. Therefore, it is not surprising that employees working in AI-related roles are expected to speak about their work in public and to self-promote. This could be relevant when employees report how AI applications work and how these applications can improve business processes. **At the same time, leadership skills, determination and holistic thinking occur around three times more often in AI job postings.** This reinforces the earlier finding that AI adoption is often accompanied by managerial coordination (Axiopro, 2026).

This overall pattern of self-driven, leading and outward-facing traits being the most AI-specific skills only partly overlaps with evidence from the US, the UK and Australia, where resilience and analytical thinking – rather than leadership or outward-facing skills – emerge as the key complementary capabilities for AI-intensive roles (Mäkelä et al., 2024). Another notable difference is that ethical judgement features prominently among the complementary skills identified in that study, whereas no directly comparable skill dimension is among the most relevant or most AI-specific soft skills in EU job postings – although related constructs such as reliability and taking on responsibility point in a similar normative direction. This discrepancy could reflect regional differences in how responsible AI use is addressed: in the EU, obligations around ethical and trustworthy AI are increasingly embedded in regulation such as the AI Act, whereas in the analysed non-EU markets, employers could express similar expectations more explicitly as an individual employee soft skill in job postings.

Conclusion

The analysis provides implications from two perspectives. On the one hand, the most frequently required soft skills in AI job postings were teamwork and adaptability to change. Although these skills appeared in approximately 75% of AI job postings, they were only slightly less frequently expected in non-AI job postings. Thus, these soft skills were only partly AI-specific. Creative thinking was also frequently required in AI job postings but showed a larger percentage-point gap compared to non-AI job postings.

On the other hand, reliability, leadership and outward-facing skills were the most AI-specific soft skills, although they appeared in only 1-20% of AI job postings. Taken together, these findings provide European companies seeking to develop, implement or use AI with an indication of the soft skills that frequently complement in-depth AI knowledge in EU job postings. In addition, the identified profile of AI-complementing soft skills provides useful guidance not only for applicants who want to adapt their skill profile to AI needs, but also for the overall education and vocational training system that aims to provide targeted and tailored training for future AI professionals.



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