The Technical Skills Landscape in the Digital and Technologies Sector policy recommendations

Topic	#	Recommendation
Economic Contribution	EC1	Standardise, where possible, the approach to data collection, modelling assumptions, taxonomies, and timeframes across studies. This could include developing new or adapted SIC and SOC classifications (or potentially hybrid options). This will minimise ambiguity and enable more accurate comparisons across industries.
	EC2	Gather data to provide detailed breakdowns of the number of technical roles and their type in each industry. This would enable more detailed analysis of skills needs in these industries.
	EC3	Provide a regional breakdown of economic statistics (revenue, number of firms, GVA, number of employees). This breakdown should be at the ITL1 level as a minimum, or in line with the Skills England's (2025a) specified areas in their Local Skills Improvement Plans.[22,23] This will help identify and track industry clusters as they develop over time.
Demographics of the workforce	D1	Develop a consistent dataset providing comparable demographic data across technical roles in frontier industries over time. This should include gender, but possibly other characteristics such as sexual orientation, ethnicity, age, disability, neurodiversity, and socioeconomic background. Enhanced workforce demographic data will improve the ability to track trends in the technical workforce, informing policy interventions across skills planning and research agendas.
	D2	Steps should be taken to further explore the causes of gender imbalances and possible solutions. In particular, interventions should be aimed at younger students, after which it likely becomes more difficult to tackle these imbalances.
Current skills landscape	CS1	Detailed and consistent information quantifying technical skills shortages and vacancies should be collected to enable policy responses to be effectively targeted. The data should be sufficiently granular to identify the specific occupations, qualification levels, skills and technical functions most affected. While the available evidence points to persistent skills gaps, their precise scale remains unclear.
	CS2	A robust, data-driven mapping of current and emerging technical skills should be completed. While the qualitative engagement points to themes such as a lack of practical and applied skills, proactivity, innovative thinking, and proficiency with handling AI tools (which may be early places to focus), gaining a comprehensive view across industry is key.

Source: Frontier Economics

[22] ITL1 refers to the highest level of major socioeconomic regional breakdown, consisting of nine English regions (like London, South East, etc.) plus Scotland, Wales, and Northern Ireland.

[23] Skills England identify 'specified areas' for local skills improvement within the North East, North West, Yorkshire and the Humber, East Midlands, West Midlands, East, Greater London, South East and South West. For example, Cheshire and Warrington, Cumbria, Greater Manchester, Lancashire and the Liverpool City Region are specified areas in the North West.

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	CS3	A systematic analysis of retirement risks, succession planning, and supply of prospective technical professionals should be conducted for each frontier industry. By understanding workforce dynamics and future replacement needs, government can then proactively address potential challenges before they arise.
	CS4	Steps should be taken to improve the pipeline of skills and awareness of technical routes early, before children start to specialise. This may help break down barriers and improve the supply of prospective technical professionals.
	CS5	The working conditions of technical professionals should be improved. This includes potentially supporting improved pay, progression and job security of technical professionals in the higher education sector in particular.
	CS6	Ensure there is a level playing field in funding and support across regions. The qualitative engagement indicated that developing regional skill clusters and talent pipelines, and supporting SME ecosystems beyond the Golden Triangle could help address this.
	CS7	Align educational pathways more closely with industry skill needs. This includes a stronger focus on developing students' practical skills, innovative thinking, and proficiency with handling AI tools.
Future shortages of technical professionals	FS1	Periodic horizon-scanning should be undertaken to assess and quantify where technical skills shortages are likely to worsen or ease over time. Given the rapid pace of change in skills needs, an adaptable approach to policymaking in this area is likely to be essential.
	FS2	Producing updated technical professional shortfall forecasts using more robust industry-specific data is advised. While all forecasts should be treated with a degree of caution, they are necessary to quantify the scale of intervention required. Forecasts should cover both academic and industry shortages.
	FS3	Steps should be taken to ensure technical professionals are continuously trained in line with the emerging skill needs in each frontier industry. A particular focus should be on upskilling the workforce around the everyday use cases of AI, as well as the validation and appraisal of AI outputs. Providing opportunities for technical professionals to develop skills relating to proactivity and innovative thinking, and to learn practical and applied skills, is also key.
The role of universities and research institutes	RU1	University curricula should be better aligned with industry needs. This includes providing, where possible, increased exposure to more practical and applied environments. Interventions should support collaboration between universities, CDTs and industry.
	RU2	Alternative pathways for technical professionals should be investigated alongside higher education options. This could include leveraging T-Levels, V-Levels or apprenticeships funded through the Growth and Skills Levy.

Source: Frontier Economics