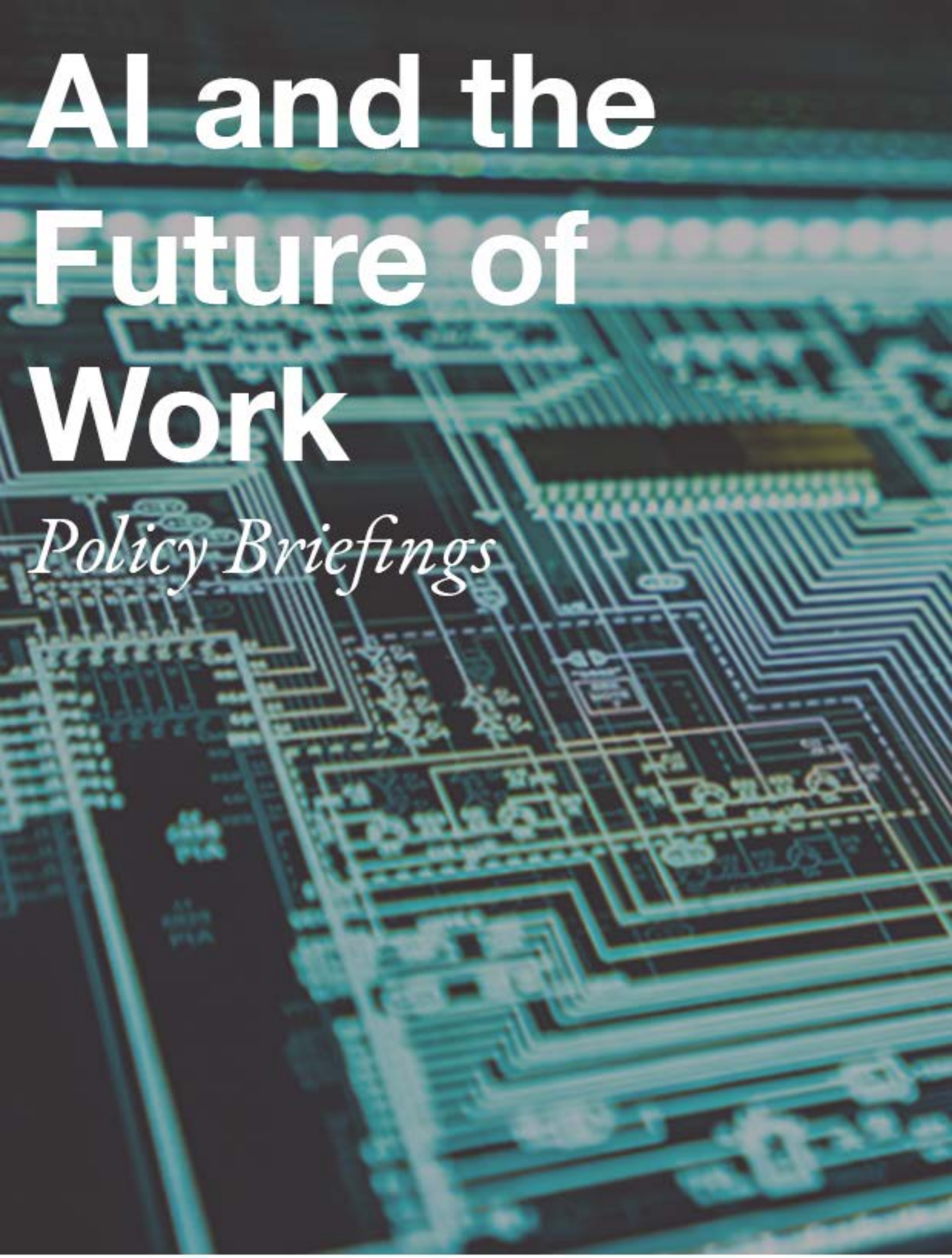

AI and the Future of Work

Policy Briefings

The British Academy

GRAND CHALLENGES

UCL PUBLIC POLICY

AI and the Future of Work: Disenfranchisement

AI AND THE DISENFRANCHISED

INTRODUCTION

AI technologies brought into workplaces can both highlight existing inequities and dis-empowerment, and create new forms of disenfranchisement.

The power imbalance between any worker and the tech companies developing and deploying AI systems for surveillance and management means that these issues cannot be addressed by individual workers through existing systems (e.g. tribunals). **Policy is needed to guide AI use in fair directions.**

AI USES OF CONCERN

Some uses of AI in work are of particular concern due to lack of transparency and possible bias:

- **Allocation of work:** both in hiring, and in assigning tasks, algorithms can use discriminatory features
- **Dismissals and performance management:** workers can face unfair decisions without explanation
- **Pay and pricing of services:** it is unclear if all workers are paid the same when algorithms are used to price tasks
- **Workplace surveillance:** concerning volumes of data are collected about workers, increasing stress, and undermining privacy
- **Facial recognition systems:** known to have racial and gender bias, these technologies are nonetheless used for worker identification

MOST IMPACTED GROUPS

Some groups are more vulnerable to disenfranchisement in work when AI is brought in. This is typically because of existing discrimination and biases.

- **Women**: often working in precarious roles in impacted sectors e.g. retail
- **Ethnic minorities:** can face algorithmically reproduced discrimination
- **People with disabilities:** can be locked out of work with new technologies
- **Gig / platform workers:** can face unfair algorithmic decision-making
- **Migrant workers:** are vulnerable to poor employment practices
- **Socio-economically disadvantaged:** can lack meaningful choice in work

SKILLS FOCUS

There has been a strong emphasis on skills training as a solution for the changing landscape of jobs in the UK, with re-skilling advocated as the primary avenue for protecting workers whose current jobs are vulnerable to automation. However, this is not a good solution for everyone:

Vulnerable Groups: older, disabled, and economically disadvantaged people may be locked out of many approaches to re-skilling.

Disparities: re-skilling is more feasible with those who have higher education, or in professions with a high level of continuing professional development as a norm. Disparities in access to re-skilling can amplify existing inequalities.

Masking problems: focusing on skills places the onus on the individual and risks ignoring broader issues with AI technologies in work, such as surveillance and algorithmic decision making (e.g. automated penalties for taking breaks).

AI AND THE DISENFRANCHISED

WORKER DATA

Workers currently have little say over how/what data is collected about them at work. This data can be sold to data brokers, and used for many purposes without worker consent. Furthermore, their data can be used to train AI algorithms with the ultimate aim of replacing their jobs.

Data reciprocity: This could be a practicable guiding principle for data in workplaces, as workers could have equal control over their data and be able to make use of it in the same way that employers can i.e. sharing benefits.

POLICY IDEAS

Increasing funding for positive AI initiatives, such as:

- AI technologies aiming to increase worker safety and wellbeing
- AI driven identification of companies that violate workers' rights: i.e. monitoring and scrutinising employment practices
- Technologies and initiatives that facilitate data reciprocity and worker control of data

New and improved legislation:

- Worker consultation could be made mandatory before AI technologies are introduced into workplaces
- A moratorium could be placed on the uses of certain technologies in work (e.g. facial recognition)
- A named holder of accountability for using algorithmic technologies to make decisions that affect workers and clients/citizens could be required in every organisation

Investigation:

- More information about current uses of AI technologies in work is needed, e.g. identifying the prevalence of the use of automated surveillance systems

KEY QUESTIONS

- *Can we legislate to prevent employers from selling worker data? Or can data brokers be better regulated?*
- *How can concerns over civil liberties and workers' rights be jointly addressed by policymakers as AI technologies raise issues crossing such boundaries?*
- *What provisions can be made, other than focusing on skills training, to help those most vulnerable to disenfranchisement with AI technologies in work?*
- *How can transparency, explainability, and accountability be ensured by those deploying AI in workplaces?*

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GOOD WORK WITH AI

INTRODUCTION

How AI develops in the world of work is not inevitable. It is essential that democratic accountability is retained, which means raising public awareness, asking questions, and thinking about governance issues.

AI can have great impacts on workers, businesses, and society. Major challenges include:

- **Job replacement:** the extent to which automation is replacing jobs is not well understood, and may be masked by the job market impacts of COVID-19 and Brexit.
- **Work intensification:** When AI sets work schedules, tracks progress, and sets targets, work becomes more intense and pressurised.
- **Changing employment relationships:** new types of work driven by AI-based technologies are often outside of the traditional employer-employee relationship, and therefore lack regulation, potentially setting new norms.

There are also benefits to be leveraged:

- **Productivity gains:** AI could be leveraged to improve working conditions, reducing menial and uninteresting tasks, and also increasing flexibility, letting people work at their best.

ACHIEVING GOOD WORK WITH AI

Some selected critical elements of good work alongside AI include:

- **Flexibility with Security:** flexible work facilitated by technology requires secure employment relationships and liveable wages. One should not come at the cost of the other.
- **Consent:** in decision making on how AI is implemented in workplaces, and in how data is used, by all workers.
- **Understanding:** in order for everyone to be able to engage in conversation about AI, transparency in how AI is being used, and sufficient technology education, is needed.

COVID-19 PANDEMIC LESSONS

The pandemic has both accelerated issues around AI and raised public awareness.

Working well with AI is an important principle to consider when emerging from the pandemic to avoid a future productivity crisis, as took place after the 2008 recession.

The fallout from the pandemic could push a short term focus towards getting people into any available work, not necessarily good work. Alternatively, this could be an opportunity for government to work towards ensuring good quality work for all as a public policy objective.

In reality, only a small proportion of people have been working from home, with strong regional differences. This shows us that a lot of work is not digital, and indicates that some forms work can be digitalised while others cannot.

Sectors for special attention:

- **Postal/delivery services:** algorithmic scheduling can increase pressure and raise safety risks.
- **Retail:** automation is increasing risk of mass redundancy in retail, a sector that largely employing women.
- **Logistics and warehousing:** use of algorithmic decision-making is intensifying work pressures and degrading conditions, while automation threatens jobs.
- **Clerical and knowledge work such as accountancy and law:** traditionally held up as well-paid and highly secure work, these sectors are increasingly subject to automation and may no longer meet workers' expectations of security.

POLICY IDEAS

Strengthen and enforce legislation:

- Establishing red lines in workplace technology use, including bans on technologies.
- Enforcement of existing employment legislation is also critical and currently insufficient.

Future planning:
Investigation into options such as changes to social security, reductions in the working week, and wide ranging employment insurance for all would be beneficial for planning.

Good work as integral to government vision:
The creation of a government funded Good Work body to facilitate research and engage experts and the public in a national conversation about the future of work could help address these actions.

KEY QUESTIONS

- *Other than productivity and employment statistics, what may be more useful ways of measuring work?*
- *Within the sectors identified as most susceptible to technological disruption, what kinds of workers (e.g. women, ethnic minority workers, disabled workers) are most impacted?*
- *What vulnerabilities has the pandemic exposed, that may be indicators of future AI impacts?*
- *How can AI deployment in workplaces best be regulated, and by whom?*

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AI and the Future of Work: Sector and Scale

AI ACROSS SECTOR AND SCALE

INTRODUCTION

The development and adoption of AI will be of vital importance to British businesses in the twenty-first century. However, there are significant barriers. The UK Government can play a decisive role in creating the right policy framework for UK businesses of different sizes, geographies, and sectors to adopt AI-driven technologies sustainably and responsibly.

A CULTURE OF SKILLS

Finding skilled workers, or training existing workers with advanced digital skills, can be challenging for businesses. Without a skilled workforce, businesses miss out on key benefits of AI, including the ability to properly collect and analyse data. This often translates into bigger costs to build teams with the right skills or businesses missing out entirely on the benefits of newer technologies.

Policy can promote mechanisms for the development of a culture of skills in the UK, including the re-skilling and up-skilling of existing workers. Mechanisms for retraining and skill development could incude:

- opening more accessible and flexible routes that allow existing workers to retrain, e.g. apprenticeships, boot camps
- training and assisting managers and decision-makers in creating more supportive environments for people with non-traditional education paths or more diverse backgrounds

In this way, policy can also support UK businesses moving away from an over-reliance on computer-science oriented university degrees alone and instead focus on skills-based hiring.

REGIONAL DIVERSITY

The UK Government currently spends almost half of the existing Research and Development (R&D) budget in the Golden Triangle between London, Oxford, and Cambridge. This has an enormous impact on the ability of businesses located elsewhere to compete. This also impacts the job prospects of millions of workers across the UK.

Policy can proactively support the strategic development of regional technology clusters more evenly across the country:

- By investing in R&D in more diverse places, the UK can work to promote more even economic development, especially in areas that have been hard-hit by decades of economic transformation and underdevelopment.
- The COVID-19 pandemic has shown that there is real potential for dispersing economic opportunity across the country.
- The viability for technological decentralisation, beyond the Golden Triangle, has shifted enormously over the past year in the UK.

AI WORKFORCE DIVERSITY

Increasing scrutiny is given to the discriminatory outcomes some AI technologies have had in work, e.g. bias in algorithmic hiring. Developers can struggle to identify and understand the impacts of the AI technologies they create. One important way of addressing these issues is by increasing diversity in the AI development workforce:

- **Interdisciplinarity:** humanities and social science disciplines enable broader understanding of the impacts technology can have
- **Race and gender balance:** can broaden the perspectives present in AI design and decision making

Social science and humanities skills alongside technical knowledge can help properly anticipate impacts of AI. Businesses need people who can consider the social impacts in context, and pose big picture questions about the future of work.

By incentivising more diverse and interdisciplinary workforces, the UK can work towards a stronger AI industry that is more adept at foreseeing, identifying, reducing, and addressing the negative consequences associated with AI.

POLICY IDEAS

- **Promote a Culture of Skills:** Invest in more flexible routes, including apprenticeships, boot camps and other diverse routes, that allow existing workers to continuously train in digital skills. Encourage businesses to conduct skills-based hiring.
- **Promote a Diverse and Inclusive Business Environment:** promote diversity of talent, opinion, and decision-making in workplaces. Workers with different experiences and points of view add tremendous value to businesses.

KEY QUESTIONS

- *How can new, highly accessible, routes into technology skills be identified and fostered?*
- *What mechanisms exist for regional investment in AI skills development?*
- *What incentives can be provided for businesses to build interdisciplinary expertise into the culture of technology development?*
- *How can underrepresented groups be included in AI decision making and development?*

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AI and the Future of Work: Future Skills

FUTURE SKILLS FOR AI

INTRODUCTION

With the publication of the UK National AI Strategy in September 2021, the government has presented a comprehensive "10 year-plan to make Britain a global AI superpower". Despite having made substantial contributions to close the AI-skill gap in the UK through more than 2,500 government-funded AI and data science conversion masters across a huge variety of UK universities, there are still important challenges in getting enough students of diverse backgrounds to enter these disciplines. Consequently, it is important to consider how to build AI-skills across society and how to put employees and students at the centre of this process.

EDUCATION

The UK government has scaled up its investment for building AI-skills, primarily in tertiary education, through state-funded university programmes, investments into the Alan Turing Institute and its fellowships as well as initiatives like the Cyberfirst Programme to engage younger students. However, certain areas and levels of education could be considered for further attention:

Comprehensive inclusion into school curricula

Developing Digital Literacy and AI-related skills could be more closely integrated into primary and secondary school curricula, conceptualised in a pluri-disciplinary way that allows concepts and skills to be integrated into a wide range of subjects.

AI-related skills are not limited to traditional STEM disciplines and computer science but include wider skill sets that ensure a holistic engagement with AI and its effects. Skills such as critical thinking, emotional intelligence and leadership could be considered as part of the AI-skills blend.

Include AI-Ethics in all AI-based skill programmes

All state funded AI-skill programmes ranging from secondary education, conversion Masters, to fellowships could include learning blocks on ethical and social implications of AI to allow learners to engage with AI in a value-oriented manner.

HOLISTIC SKILLS

The UK National AI Strategy narrowly focuses on technical sectors and highly specialised skills and employees. This is important for making the UK an international leader in the field of AI, yet this strategy risks missing the opportunity to develop the wider workforce and its diverse needs and capabilities to adopt new AI-skills. It is important to redirect resources to a broader portfolio of fields across sectors to make sure all employees can benefit from government programmes.

- A high level of general AI- and data literacy across the population is necessary for confident adoption and critical interaction with such technologies in the context of work.

- The UK AI Council Roadmap points towards the need for an online academy that can provide free tools and resources for lifelong learning and civic education. Beyond this, it is important to think about how diverse population groups could be motivated to follow such programmes.

- Furthermore, an emphasis on civic dialogue in diverse fora could foster interactive engagement with wider stakeholders on the issue of AI and work. This could allow them to voice hopes and concerns regarding the development of AI-skills across the UK workforce.

SCALE UP INVESTMENT

Within the Public Sector

An AI-enabled workforce will need to interact with an AI-enabled public sector that can provide digital services and support the transformed workforce accordingly. To help civil servants boost their AI-skills, initiatives like the newly launched Public School of Technology aimed at equipping civil servants with start-up like working methods and digital skills can help to broaden the level of AI-skills and applications within the public sector.

Targeted resources for SMEs and other actors

In order to help actors such as SMEs with limited resources to develop their employees' AI-skills, it is important to further invest into programmes like the Skills Value Chain approach piloted by the Department for Education or the Department for Education's Skills Bootcamps offering sector specific training. Such an approach will centralise training efforts and minimise the individual organisational costs for SMEs and other small to middle-sized organisations.

Diversity and access

The level of diversity amongst employees in the AI and Tech Sector is relatively low. Thus, the access to AI-skills and their operational use, especially in senior leadership is unequally distributed amongst diverse population groups and between genders. In order to avoid a "gender skill-gap", a reframing of tech-intensive subjects and courses could be helpful.

It is important for governmental investments and AI skills programmes to consider and try to address disparities in access to AI skills learning, retraining and upskilling.

KEY QUESTIONS

- *How can AI-skills be comprehensively integrated into a strategy of lifelong learning starting at school and continuing during the duration of professional life?*
- *How can a civic and societal discourse around AI and work be coupled with the widespread increase of general digital and AI literacy?*
- *How can the UK focus on building a widespread AI-enabled workforce that goes beyond focusing on excellence and also helps to tackle issues such as regional inequalities?*
- *How can the access to AI-skills be expanded to ensure widespread adoption and a higher degree of diversity in AI-intensive fields?*

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