



Changing the world
of work for good

Shaping our Digital Future

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Digitalisation in context

- Artificial Intelligence (AI), Big Data and the 'Internet of Things', taken together, are set to fundamentally change the way we live, including the way we work
- These technologies could bring massive benefits, around issues as varied as medical diagnostics, addressing the productivity challenge and progressing the fight against climate change
- These technologies could also bring huge disruptions with many workers asking the simple question: is a robot about to take my job?
- Digitalisation will happen. The question is: can it be introduced in a way that unites rather than divides our societies, a way that offers benefits for everyone, rather than a select few?

Shaping Our Digital Future

- Earlier this month, the TUC published a discussion paper entitled 'Shaping Our Digital Future'
- My remarks this morning will be based on that paper
 - Time prevents me from exploring the potential benefits of digital technology, but trade unions recognise those benefits to be there
 - I will focus instead on the specific challenges that this technology could bring, around jobs and wages
 - I will then offer a few thoughts on how to take this agenda forward, from a trade union perspective

‘There is nothing new under the sun’

- The fact that digital technologies are sometimes referred to as the ‘fourth industrial revolution’ suggests that there have been three similar periods of economic disruption before this one:
 - Industrialisation – around 1800, with the invention of the steam engine;
 - Electrification – the end of the nineteenth century saw the first assembly line, used by Henry Ford;
 - Information technology, from the 1970s, first personal computers then the internet meant global access to information

The effects of industrial transformation on productivity, jobs and wages

Despite the fears of many, throughout the three previous industrial transformations, productivity, employment and wages rose mostly together

- Productivity increased throughout this time, increasing sharply in the post-war period, up until the financial crisis of 2008
- Employment has been on an upward trend ever since the invention of the steam engine
- Wages increased, up until the 1970s, since when the share of national income going to wages has flatlined
- The nature of work has changed dramatically, however, with a shift in employment away from manufacturing and towards professional services
- The effects of this change has been felt unevenly, with median pay in areas previously dominated by heavy industry around ten per cent lower than the national average

What will the next industrial transformation do to jobs?

- Frey and Osborne: 47 per cent of total US employment is at high risk of automation, perhaps over one or two decades
- Arntz, Gregory and Zierhan: on average across 21 OECD countries, nine per cent of jobs are at high risk of automation
- Bank of England: using Frey and Osborne's methodology, 35 per cent of jobs are at high risk of automation – up to 15 million jobs in total
- This leads some to argue that 'this time will be different' and that digitalisation will lead to more jobs lost than created. At present, we do not have the evidence to know for sure

Two key public policy challenges for the UK

- How to introduce digitalisation in a way that reduces, rather than widens, divides between those whose jobs are at risk and those whose jobs are not
- How to ensure that workers share the productivity gains from digitalisation through higher wages

‘Technology is not destiny’

- ‘Artificial Intelligence, Automation and the Economy’, Executive Office of the [United States] President [Barack Obama], December 2016:
 - Invest in AI for its many benefits
 - Develop a larger, more diverse AI workforce
 - Develop education and training – early education, lifelong learning, apprenticeships
 - Aiding and empowering workers for the digital future – expanding work-sharing programmes, raising the minimum wage, supporting strong labour unions
- ‘Re-Imagining Work’, Germany’s White Paper on the future of work, a consultation to which trade unions, businesses and others submitted evidence

Evidence from Germany

- TUC carried out original research in Germany to find out how AI and other technologies have been introduced there
- Germany's social partnership system gives workers a real say in technological developments, leading to more confidence in the process
- Moritz Niehaus of IG Metall, the German metalworkers union, told us:
 - "... the real participation of employees and the works council at an early stage would be a big opportunity for German companies... The social dialogue could in this case be a real strength of the German industrial relations model in the digital era."

Evidence from Germany

- At Airbus in Germany, an agreement has been reached that in implementing projects associated with the 'factory of the future', there will be no negative impact on pay or working time and that jobs will not be lost
- This does not mean that headcount will remain the same. It may be that workers are not replaced as they retire. It may also mean that new jobs are created in, for example, data management
- Jan Hinz, Vice Chair of General Works Council in German civil Airbus factories: "The answer is quite simple: unions and companies need to unite... the United Kingdom has a proud tradition of union federation and humanization at the enterprise level... I think you can only relieve anxiety if you show that management and labour are working together in unison..."

Policy recommendations from the TUC

- The UK should set an industrial 'mission' to be one of the world's top five digital economies by 2030
- The Government should convene a year-long enquiry into the future of work, based on the German model
- The UK should aim to double the proportion of female STEM graduates in the next ten years
- There should be an ambition to increase investment in workforce and out of work training to the EU average within the next five years
- Government should support the expansion of collective bargaining to increase the share of national income going to workers
- Government should consider using the increased wealth created through digital technology to delay the next increase in the statutory retirement age

The logo consists of the letters 'TUC' in a bold, sans-serif font. Each letter is rendered with a 3D effect, appearing to be made of a translucent material with a white-to-purple gradient. The letters are slightly offset from each other, creating a sense of depth and movement. The 'T' is on the left, 'U' is in the middle, and 'C' is on the right. The background is a solid, deep purple color.

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