



A UK view on societal challenges of the Fourth Industrial Revolution

Tim Page, Senior Policy Officer TUC

15 November 2016

The history of technological change

Technological change has existed since the industrial revolution

- The history of technological change has been one of massive potential and great fear
- Evidence shows that technological change is a net job creator. However...
 - People losing the old jobs are not necessarily best placed to get the new jobs
 - New industries do not necessarily create the steady, well-paid jobs of old industries

Technology, in short, creates societal challenges

'Brexit'

Nearly five months ago, the UK voted to leave the European Union

- Some argue that this was to create a thrusting, dynamic model of capitalism
- I believe the EU needs to reform, but that is not why we are leaving
- Among some, the vote to leave was a cry of anguish for a lack of high skill, high value jobs that paid decent wages and provided dignity at work
- The days of UK as industrial workshop of the world are over
- But the UK can create far more good jobs with an intelligent, sustainable industrial strategy, engaging government, businesses and trade unions

Digital Manufacturing

On the positive side:

- Opportunity to digitise manufacturing
- Business networks to predict failures
- Manage energy use
- Provide good jobs and a better work-life balance

On the negative side:

- 5m jobs lost worldwide, according to World Economic Forum, January 2016
- In US, jobs at risk of automation in 47% of occupational classifications
- “What robotics did for blue-collar work, artificial intelligence will do for white-collar work”

Digital Manufacturing

Digital manufacturing need not destroy jobs if new technology and processes are introduced in an intelligent way

- This requires strong leadership and focus and a clear voice for trade unions
- Germany leads the way
 - “Industrie 4.0 must be understood as a project of, and for, society as a whole, and it requires a close alliance between the private sector, academia, research, politics and trade unions.” Henning Banthien, Secretary General, Platform “Industrie 4.0”.
- Future labour force must be positively connected to the changes and advantages resulting from “Industrie 4.0”.
- This is the German view; what about the British?

Human Economies

“Over the course of the twentieth century, the mature economies of the world evolved from being industrial economies to being knowledge economies. Now we are at a watershed moment, transitioning into human economies.”

Dov Seidman, CEO of LRN Corporation

- Ironical that the policy response to robots could be to stress what it is to be human
- The value of the pause:
 - When you hit the pause button on a machine, the action stops
 - When humans pause, true reflective work begins
 - Workers must be as empowered as possible, including to have the power to pause

Skills

- According to the World Economic Forum, World Bank and the International Labour Organisation, a radical change in the division of labour along global supply chains will change the skills demands of employees
- Cognitive, social and problem-solving skills are more in demand
- Those are human skills that a robot would struggle to emulate
- Workers will need skills necessary to cope with and shape digitalisation process
- They will need to exploit new opportunities of learning through information technologies
- Workers who can choose employers who recognise them as a whole person, not just a unit of labour

High Performance Workplaces

“a general approach to managing organisations that aims to stimulate more effective employee involvement and commitment in order to achieve high levels of performance. [They are] designed to enhance the discretionary effort employees put into their work, and to fully utilise ... the skills that they possess.”

UK Commission for Employment and Skills

- HPWs are associated with increased profits, sales and profitability
- Employees report higher job satisfaction, motivation, involvement, commitment, and greater opportunities for innovation and creativity, alongside lower staff turnover

High Performance Workplaces

- Few firms adopt high performance work systems
- Issue is lack of knowledge, rather than hostility
- UK Government report, October 2012, recognised that several European countries require employee involvement, such as works councils
- Statutory approach “doesn’t fit with existing UK policy frameworks”; no appetite among businesses
- However, Theresa May is interested in industrial policy, including workers on company boards

Conclusions

- “Industrie 4.0” is the next stage of industrial transformation
- In a century set to be dominated by dynamic Asia, European industries cannot stand still
- But we must put people at the heart of this process
- IG Metall, German engineering union and leading the work group “Arbeit/Work 4.0” of the German platform is looking for:
 - Job security and fair remuneration
 - Reduction of workload and revaluation of activities
 - Better professional development and learning opportunities
 - More time sovereignty and informational self-determination
 - Involvement and participation on an equal footing