

AI revolution and 'Industry 4.0'

The opportunities and challenges presented by artificial intelligence are huge, with the rate of development ever accelerating, writes **Chris Weaver**



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A recent report by the International Bar Association suggests that rapid developments in artificial intelligence (AI) will have a profound impact on the workplace which will result in current employment laws becoming outdated.

The report identifies the development of AI as triggering the 'fourth industrial age' or 'Industry 4.0'. The preceding three revolutions are listed as: industrialisation, electrification, and digitalisation. Industry 4.0 will be characterised by automation of production and logistics, the 'internet of things' (connection between everyday objects), robotisation, dematerialisation, use of big data, and a more flexible 'gig economy'. Overall the effects of increased productivity and efficiency are expected to be of considerable benefit to mankind, in much the same way as the previous industrial revolutions were, but creative solutions will be required in employment law and policy to manage problems that arise.

The impact of AI on the labour market will result in jobs that are carried out by humans being replaced by machines. The report claims that while a German car worker costs €40 an hour, a robot costs between €5 and €8 per hour – cheaper than a worker in China. A robot can work more efficiently, cannot become ill, have children, or go on strike, and is not entitled to annual leave. Although labour costs are a major recurring expenditure for a company, machines are a one-off expenditure that works more efficiently and pays for itself. White collar professions will not be immune to the AI revolution and up to one-third of graduate level jobs may eventually be replaced by machines or software.

While some roles will be threatened by the development of AI others are likely to benefit and adapt with the changes. In production, humans are likely to move from carrying out repetitive mundane tasks to supervisory, co-ordination, and strategic oversight roles. There will be fewer opportunities in low-skilled high-routine occupations due to automation, while highly skilled, creative, and technical professional jobs are less likely to be affected. New opportunities are likely to arise in big data, science, and technology. Humans will also have more time for creative and leisure activities, having been released from the need to carry out more mundane repetitive tasks. The report considers the risk of the legal profession being replaced by intelligent software or machines to be relatively low (3 per cent to 5

per cent). Legal services will benefit from software aiding lawyers in basic tasks, such as contract reviews, allowing lawyers to focus on more skilled tasks and reducing costs for clients.

Nevertheless, according to a study by Deloitte, up to 100,000 jobs in the English legal sector will become automated in the next 20 years.

The threat of AI to human jobs has led to fears of mass unemployment, growing inequality, and social upheaval. There is concern that new job opportunities will not be created as quickly as old jobs are lost, or that those losing their jobs will not have the skills to take up the new opportunities that arise. Some will do well out of the coming of AI, while others are likely to lose out.

Industry 4.0 is also characterised by a move from more secure permanent employment to less secure temporary work in the so-called 'gig economy'. Companies are likely to benefit from these more flexible arrangements as they circumvent employment rights and the need to make social security payments.

Changes to employment law?

Possible changes to employment law and policy to address the challenges of AI in the workplace include:

- Ensuring fair working conditions, rights, and protections for independent contractors and those working in the 'gig economy'.
- The removal of bureaucracy and creation of a favourable business

environment for start-ups and jobs creators.

- Imposing training and retraining obligations on employers or subsidies and tax incentives to encourage the reintegration of the unemployed back into the labour market.
- Introducing a tax on the use of machines or 'made by humans' labels.
- Introducing human quotas requiring companies to employ minimum numbers of humans.
- Legislating that certain jobs, such as childcare, must be performed by humans for public policy reasons.
- Companies being required to pay into social security funds, for example the owners of smart factories and others reaping the benefits of mass automation.
- Establishing an unconditional basic income for all to compensate for the inevitable loss of jobs and risk of long-term unemployment for some.
- Changes to the law on working time including maximum working time, rest breaks, and how these are monitored.

The opportunities and challenges presented by AI appear huge and the rate of development ever accelerating. Employee representatives, governments, companies, and lawyers must engage and discuss creative solutions to address these challenges. **SJ**