

Robot revolution will be a legal minefield, report says

AI will test employment law, safety and insurance 'Human quotas' could be needed for certain jobs

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Artificial intelligence and robotics could upend longstanding working practices, force governments to legislate for quotas of human workers, and pose novel dilemmas for insuring driverless cars, according to new research by the International Bar Association.

The survey, which suggests that a third of graduate-level jobs around the world may eventually be replaced by machines or software, warns that legal frameworks regulating employment and safety are becoming rapidly outdated.

The competitive advantage of poorer, emerging economies – based on cheaper workforces – will soon be eroded as robot production lines and intelligent computer systems undercut the cost of human endeavour, the study suggests.

While a German car worker costs more than €40 (£34) an hour, a robot costs between €5 and €8. “A production robot is thus cheaper than a worker in China,” the report says. A robot does not “become ill, have children or go on strike, and [it] is not entitled to annual leave”.

The 120-page report, which focuses on the legal implications of rapid technological change, has been produced by employment lawyers from the IBA, a global forum for the legal profession. It covers the changes already transforming work and the likely future consequences of what it terms “industrial revolution 4.0” – the three previous phases being industrialisation, electrification and digitalisation.

Amazon, Uber, Facebook, smart factories and 3D printing are among its pioneers, the study says, describing 4.0 as involving the integration of hardware and software in production and services.

The report’s lead author, Gerlind Wisskirchen, an employment lawyer in Cologne who is vice-chair of the IBA’s Global Employment Institute, said: “What is new about the present revolution is the alacrity with which change is occurring, and the broadness of impact being brought about by AI and robotics.

“Jobs at all levels in society presently undertaken by humans are at risk of being reassigned to robots or AI, and the legislation once in place to protect the rights of human workers may be no longer fit for purpose ... New labour and employment legislation is urgently needed to keep pace with increased automation.”

The authors suggest governments will have to decide which jobs should be performed exclusively by humans – for example, caring for babies. “The state could introduce a kind of ‘human quota’ in any sector” and decide “whether it intends to introduce a ‘made by humans’ label or tax the use of machines,” the report says.

Increased mechanical autonomy will cause problems over how to define legal responsibility for accidents involving new technology such as driverless cars; whether it is the owner, the passengers, or

manufacturers who pay the insurance. “The liability issues may become an insurmountable obstacle to the introduction of fully automated driving,” the study says.

Driverless forklifts are already being used in factories. Over the past 30 years, there have been 33 employee deaths caused by robots in the US, it says.

Limits will have to be imposed on some aspects of machine autonomy, the study says. In a military context, it adopts the principle, endorsed by the Ministry of Defence, that there must always be “a human in the loop” to prevent the development and deployment of entirely autonomous drones that could be programmed to select their own targets.

“A no-go area in the science of AI is research into intelligent weapons systems that open fire without a human decision having been made,” the report states. “The consequences of malfunctions of such machines are immense, so it is all the more desirable that not only the US, but also the United Nations discusses a ban on autonomous weapon systems.” the self-employed “gig economy” and existing legal frameworks is already growing, the lawyers note. The information economy is likely to result in a greater income gap between rich and poor because “many people will end up unemployed, whereas highly qualified, creative and ambitious professionals will increase their wealth”.

Among the professions deemed most likely to disappear by the study are accountants, court clerks and “desk officers at fiscal authorities”. Even some lawyers risk becoming unemployed. auditing firm] Deloitte, 100,000 jobs in the English legal sector will be automated in the next 20 years.”