

## You're hired—taking on robots as employees

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**IP & IT analysis: Robots are entering the work environment at an increasing rate--sometimes replacing humans and sometimes collaborating with them. Isabelle Wildhaber, professor for private and commercial law and a director of the Institute for Work and Employment Research at the University of St Gallen, Switzerland, examines a range of issues relating to aviation law, discrimination and mass redundancies and explains the legal implications of profound changes already afoot.**

### **How far are we from a situation where robots are commonplace in our workplaces?**

There is no general consensus on the definition of a robot, and so it depends what is meant by 'robot'. Roboticians qualify robots as mechanical objects that can do three things--they can sense, think and act. A technology does not 'act' by offering information in comprehensible form. 'Acting' means to have physical influence and therefore a software without physical influence is not a robot.

Even though we keep reading of humanoid robots in the newspapers, so far, humanoid robots have not achieved technological and economic significance in global workplaces. The roughly 300,000 industrial robots placed into operation each year have. However, these programmable multi-purpose manipulators do not raise as much enthusiasm in the media as the humanoid, anthropomorphic robots.

Industrial robots are already commonplace in workplaces around the world. One example of an industrial robot is Baxter of Rethink Robotics. It is an affordable multi-purpose robot for production, friendly with workers, programmable by colleagues. Like all robots in workplaces, Baxter is always available, it does not get sick, it does not take any holidays, it is not moody, it does not harass anyone and it does not ask for a bonus.

Robots also play a big part in the logistics and transport industries. In the service sector, robots increasingly can be found in hotels, restaurants and retail. Personal care robots are also emerging they help, entertain, supervise and cater to elderly people.

### **Are robots all the same, do different robots require different laws?**

No, not all robots are the same. There are many, many different types of robots that fulfill the sense, think and act definition. There are self-driving cars, there are drones, industrial robots in the car industry, exoskeletons, social robots for home use, etc. Different types of robots require different regulations. Should parcel-delivering commercial drones be allowed? Who is liable in case of an accident involving a self-driving car with no human 'driver'? Should social robots in any way be protected from abuse? Should machine-to-machine (M2M) contracts be considered valid by giving the contract concluding machines an electronic personhood? What International Organization for Standardization (ISO) norms are necessary for collaborating industrial robots? A myriad of questions arise in all sorts of legal fields, from public law to torts law, criminal law and employment law.

### **Do you feel the law changing fast enough to accommodate the rapid changes in technology?**

It depends a lot on what robots and what legal fields we are talking about. If we want to permit self-driving cars on the streets, for example in Switzerland, then we need a change in the Road Traffic Act 1991. If we want to allow commercial drones delivering our parcels, we also need a change in aviation regulations. Therefore, in many areas we do need adaptations to the existing regulations. Lawmakers must decide whether legal foundations need to be modified or whether entirely new ones are necessary.

When we look at robots in the workplace, robotics introduce many risks and unknowns into labour law, and create working conditions that were unthinkable when much labour legislation was enacted. The key is to anticipate what kind of labour law and employment law problems might arise, even though the existing law is only developing. Employers must keep a watchful eye on these legal developments. However, I think we have to exercise restraint until the necessity for new labour legislation becomes clear. The consequences of robotics in the workplace must be considered in relation to other phenomena such as migration, superannuation and globalisation.

**What challenges do robots present to workplace legal issues including health and safety or discrimination?**

Robotics create new prevention challenges regarding occupational health and safety. Personal care robots challenge the concept of occupational safety because they are used for a variety of tasks in environments that are not precisely defined, because they come into contact with non-specialised users, and because they share the workspace with humans. Therefore, safety standards must be defined, formally and on an international level, as the 2014 ISO standard on personal care robots does.

Collaborative robots—cobots—are a new generation of industrial robots that overcome safety barriers and emerge from behind protective bars. The combined use of cobots and human employees will revolutionise production in factories around the globe. ISO technical specification 15066 spells out safety requirements for collaborative robots, including specific rules for analysing and controlling risks.

Assessing legal risk regarding industrial safety is difficult in a workplace that includes a personal care robot or a cobot. New approaches will be necessary and both humans and robots must be trained to ensure safe contact.

Robotic systems must also be programmed so they do not discriminate directly or indirectly. 'Hiring-by-algorithm' programs must meet requirements for admissible interview questions and comply with laws against discrimination and disparate impact. Robots, such as the increasingly well-known 'Sophie', that are programmed to ask questions of applicants, answer questions, and measure an applicant's physiological reactions must adhere to all requirements of privacy protection in employment relationships and the relevant data protection laws.

Exoskeletons can also raise equality and discrimination issues. First, there is the question of whether they should legally be treated as body parts. Second, exoskeletons could become reasonable accommodations. For example, in certain cases an employee may be entitled to such an accommodation from their employer.

**Are there some roles where humans have to retain authority in the workplace and automation is not possible?**

Hitachi has developed a robot that assigns work tasks to human employees and issues instructions. However, instructions have to stay within the scope of what a human boss is allowed to give, and a human senior manager must take responsibility for the robot's commands. It is also conceivable that the time will come when an algorithm decides whether to fire employees. A manager robot can make the decision for a dismissal and suggest it, but is not allowed to give somebody notice. Only a human being can legally give notice under most national employment laws.

Job interviews done by a robot, such as Sophie, may discriminate or may ask inadmissible questions. If the job applicant sues the employer, the latter might take recourse on Sophie's producers. The (unanswered) question is whether a human senior manager must take responsibility for the job interview conducted by the robot Sophie. I would answer that in the affirmative.

**Does automation create legal problems through widespread redundancies?**

The question whether automation and robotics will create more jobs than it will eliminate is not new. Already in 1930, John Maynard Keynes talked of the threat of 'technological unemployment'. But new industries are also being created, a process that Joseph Schumpeter called 'creative destruction'. Today, economists debate whether 'this time it is different' and whether the rise in productivity through robotics might cause mass unemployment for our children--opinions and studies on this issue diverge greatly. But undoubtedly, some employees will be made redundant, even if new jobs will be created. Widespread redundancies may create legal problems. The individual dismissals must be valid and the mass dismissals must follow the applicable national regulations on the procedures for mass dismissals and for social compensation plans.

*Interviewed by Julian Sayerer.*

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