

## INTERNATIONAL

JUNE 2017

### IN THIS ISSUE

*In the following, Gerlind Wisskirchen will report on the changes occurring in the digital working environment. She will illustrate the legal challenges for companies associated with this and present possible solutions with regard to HR matters.*

## Digitalization and Automatization and Their Impact on the Global Labor Market



### ABOUT THE AUTHOR

**Gerlind Wisskirchen** is a partner and specialist lawyer in the area of labor and employment law at CMS Germany. She advises multinational corporations particularly on the issues of reorganization, national and international labor and employment law and compliance. Gerlind is an expert on the digitalization of the world of work and editor of the report "Artificial Intelligence and Robotics and their Impact on the Workplace" for the Global Employment Institute (IBA). She can be reached at [gerlind.wisskirchen@cms-  
hs.com](mailto:gerlind.wisskirchen@cms-<br/>hs.com).

### ABOUT THE COMMITTEE

The International Committee is the core international group in IADC and serves those members who have an interest in transnational or international legal matters including transactions, litigation, and arbitration. Thus any member, whether in the USA or abroad, who does cases with a foreign element (inbound or outbound) will find involvement in this committee extremely useful. Many of the members of the committee are from outside the USA, and this provides a rich mix of experiences and expertise as well as great networking opportunities. The International Committee also organizes European, South American, and Asian Regional Meetings and contributes to the International Corporate Counsel College. Learn more about the Committee at [www.iadclaw.org](http://www.iadclaw.org).

*The International Association of Defense Counsel serves a distinguished, invitation-only membership of corporate and insurance defense lawyers. The IADC dedicates itself to enhancing the development of skills, professionalism and camaraderie in the practice of law in order to serve and benefit the civil justice system, the legal profession, society and our members.*

## A. Introduction

Modern information technologies and the daily use of the Internet have strongly influenced the world of work in the 21<sup>st</sup> century. Intelligent algorithms simplify everyday tasks, and it is impossible to imagine how most of the steps of a procedure could be managed without them. The use of artificial intelligence (AI) and robotics is accelerating. Thus, the question arises as to what the future world of work will look like and how long it will take for this to happen. Mass unemployment, mass poverty and social distortions might be a possible scenario for the new world of work.<sup>1</sup> Even if intelligent systems and algorithms play an increasingly central role in the new world of work, no jobs will be lost abruptly as a consequence of digitalization. Rather, a gradual transition will take place, which has already commenced and differs from industry to industry and from company to company.<sup>2</sup>

Big data analyses and intelligent algorithms are increasingly replacing or supporting humans also in the service sector. In the industry sector, automation and the use of production robots will lead to considerable

savings with regard to the cost of labor and can release workers from hard and dangerous, repetitive and monotonous work. While in the European automotive industry one working hour in production costs more than €40, the costs for using a robot range from €5 to €8 per hour.<sup>3</sup> A production robot is thus only slightly cheaper than a worker in China.<sup>4</sup>

Robots and intelligent algorithms cannot become ill, have children or go on strike and are not entitled to annual leave; for many companies it is therefore worthwhile to invest in robots and intelligent software. An autonomous system does not depend on external factors and works reliably and constantly also in danger zones and during the night.<sup>5</sup>

## B. Categories of Artificial Intelligence (AI) in the Economic Field

**Deep Learning:** machine learning based on a set of algorithms that attempt to model high-level abstractions in data.

**Gig Economy:** independent contractors looking for individual tasks that companies

---

<sup>1</sup> <http://www.spiegel.de/wirtschaft/soziales/arbeitsmarkt-der-zukunft-die-jobfresser-kommen-a-1105032.html> (last accessed on February 16, 2017, 1:47 p.m.).

<sup>2</sup> Brzeski/Burk, "Die Roboter kommen, Folgen der Automatisierung für den deutschen Arbeitsmarkt," 2015.

<sup>3</sup> <https://www.bcgperspectives.com/content/articles/>

[ean-manufacturing-innovation-robots-redefine-competitiveness/](http://www.faz.net/aktuell/wirtschaft/fuehrung-und-digitalisierung-mein-chef-der-roboter-14165244.html) (last accessed on February 13, 2017, 9:17 a.m.).

<sup>4</sup> "Kollege Roboter," *Fokus No. 38/2015* of October 19, 2015, p. 69.

<sup>5</sup> <http://www.faz.net/aktuell/wirtschaft/fuehrung-und-digitalisierung-mein-chef-der-roboter-14165244.html> (last accessed on February 16, 2017, 11:02 a.m.).

advertise on an online platform (e.g. "Amazon Mechanical Turk").

**Robotization:** production robots replacing employees because of advanced technology (they work more precisely than humans, e.g. 3D printers).

**Autonomous Driving:** vehicles have the power for self-governance using sensors and navigating without human input. Taxi and truck drivers are no longer necessary. The same applies to stock managers and postal carriers (e.g. delivery drones).

**Dematerialization:** Thanks to automatic data recording and data processing, traditional office activities are no longer necessary (e.g. accounting or lawyer assistants).

### C. The Impact of Digitalization and Automatization on the Labor Market

#### 1. The Global View

According to recent studies, about 47 percent of total U.S. employment is at risk,<sup>6</sup> and some 70 percent of total employment in Thailand or India are at risk.<sup>7</sup> Low-wage countries such as China, India and Bangladesh are still benefiting from their surplus of low-skilled workers, and Western

companies have outsourced their production and some services to these countries. In most developing countries, the implementation of (partly) autonomous systems is not likely to be worthwhile at present for economic reasons, since the labor costs are not much higher than the costs for acquisition, development and maintenance of the necessary equipment.<sup>8</sup> On the other hand, companies also located in low-wage countries have to invest into relevant IT-systems in order to improve their productivity and attractiveness vis-à-vis their competitors and remain competitive in the long run.

Eventually, however, these companies will decide to produce in their countries of origin using production robots and only a few workers in the future. In this case the surplus of low-skilled workers will turn into a curse for developing countries. The question here is how to integrate the large number of unskilled production workers into a structurally difficult labor market that depends on the demand of foreign countries. Another problem is that there are no comparable social security systems in place in most developing countries. Possible mass unemployment could lead to humanitarian catastrophes and a wave of migration.

<sup>6</sup> Frey/Osborne, "The Future of Employment: How Susceptible Are Jobs to Computerisation," 2013, p. 1.

<sup>7</sup> "Automat trifft Armut", *Handelsblatt News am Abend*, July 15; No. 135, p. 6.

<sup>8</sup>

<https://www.bcgperspectives.com/content/articles/lean-manufacturing-innovation-robots-redefine-competitiveness/> (last accessed on February 13, 2017, 2:38 p.m.).

Due to the lack of financial investments in many developing countries, digitalization will initially be strongly focused on Western developed countries and Southeast Asia. One example: More than 80 percent of the robots sold each year are used in Japan, South Korea, the U.S. and Germany.<sup>9</sup>

## 2. New Job Structures

According to a survey by the Pew Research Center 65 percent of Americans expect that a robot or an intelligent algorithm will be doing their work within 50 years.<sup>10</sup> Individual jobs will disappear partly or completely, and new types of jobs will come into being, especially in the third service sector. That the service sector will be affected can especially be seen in the insurance and financial branch where intelligent algorithms are replacing human employees by automatically carrying out traditional back-office tasks, answering client questions via chatbots and presenting financial planning or insurance policies.<sup>11</sup>

A typical example for a new typed job created in the last years is crowdworking. Freelancers thus represent the typical worker of Industry 4.0 because they work at any time and at any place. Thanks to the

Internet, country borders and time differences also no longer play a role. Owing to the digitalization and the internationalization of the online platforms on which crowd workers offer their services, the choice of applicable law is usually uncertain. More precisely, the challenge is how to define crowd working, how to establish working conditions for compensation and how to find out which tax regime, which social security and welfare rules are applicable.<sup>12</sup>

It is certain that both blue and white collar sectors are affected to the same extent. In the medium-wage sector, routine jobs will be eliminated. Even one third of the jobs that require a bachelor's degree will be possibly replaced by a machine or intelligent software in the next years. At the same time, it is expected that new jobs will be created in the service sector, ranging from data analysts to software programmers.

## 3. Labor Relations

The role of humans within the world of work is changing. Employee organizations have realized that new challenges are in store for employees from all professional and social classes because of robotics and the

<sup>9</sup>

<https://www.bcgperspectives.com/content/articles/lean-manufacturing-innovation-robots-redefine-competitiveness/> (last accessed on August 3, 2016, 2:58 p.m.).

<sup>10</sup> <http://www.pewinternet.org/2016/03/10/public-predictions-for-the-future-of-workforce-automation/> p. 3 (last accessed on February 13, 2017, 10:10 a.m.).

<sup>11</sup>

<http://www3.asiainsurancereview.com/News/View->

[Newsletter-Article/id/38286/Type/eDaily/South-Korea-Insurers-to-evolve-into-integrated-service-providers-integrated-service-providers](https://www3.asiainsurancereview.com/News/View-Newsletter-Article/id/38286/Type/eDaily/South-Korea-Insurers-to-evolve-into-integrated-service-providers-integrated-service-providers) (last accessed on February 17, 2017, 10:11 a.m.).

<sup>12</sup> "The On-Demand Economy and the impact on employment law", *International Bar Association Employment & Industrial Relations Law* September, 2016, p. 31.

computerization of the workplace. Trade unions will pay particular attention that no "lost generation" is left behind and that there are no mass dismissals caused by the introduction of AI. Unions will advocate further training, advanced training and retraining of employees.<sup>13</sup>

Trade unions will remain the main player when it comes to fighting for employees' rights and they will expand their constituency by also representing the increasing number of freelancers. Finally, the lawmakers will have to introduce new forms of employee representation structures to avoid their slow decline caused by a decrease in trade union memberships and fewer employees in a company due to which the required thresholds for works councils can no longer be reached.

#### 4. Outsourcing Employment and Creating New Internal Structures

Companies will focus on their core competencies and will outsource other activities in a cost-effective manner.<sup>14</sup> It is a global trend that Work 4.0 will take place outside traditional employment structures with a rise in self-employment.<sup>15</sup> Even in European countries, the so-called platform economy is becoming more and more common. And larger companies use external

workers for their purposes instead of hiring new employees. Some highly qualified young employees enjoy their independence and will focus their work on the development of creative solutions for a changing client base. The demand for social security is no longer as high, but freedom with regard to working time, the place of work and the choice of clients is more important to the so-called Generation Y.

Professional connections between companies, clients, competitors and external providers involve some risks with regard to business secrets, especially, if companies create innovative open innovation models or use prosumers to develop their products. Especially in big companies, hierarchy levels will be eliminated, smaller organizational units are necessary. An automatic supply chain connection between the company's systems and the systems of its external providers will be the basis for success in the digital world.

#### 5. Distinction Between Employee and Independent Contractor

Classic employment can be detrimental to the business owing to the high wage costs in European countries.<sup>16</sup> An employee is primarily characterized by the fact that he is subject to the authority of the employer to

---

<sup>13</sup> [https://innovation-gute-arbeit.verdi.de/++file++540998f5ba949b358400004e/download/138.1411\\_digit\\_arbeit\\_RZ3\\_web.pdf](https://innovation-gute-arbeit.verdi.de/++file++540998f5ba949b358400004e/download/138.1411_digit_arbeit_RZ3_web.pdf) (last accessed on February 13, 2017, 2:24 p.m.).

<sup>14</sup> "Understanding the Future of Work", *International Organisation of Employers Brief 06-07-2016*, p.7.

<sup>15</sup> "Automation and Independent Work in a Digital Economy", *OECD Policy Brief on the Future of Work, May, 2016*, p.3.

<sup>16</sup> "The On-Demand Economy and the impact on employment law", *International Bar Association Employment & Industrial Relations Law September, 2016*, p. 27.

issue instructions regarding his job assignment. The borderlines between the employee's professional life and private life become blurred. If the place of work, in addition to working time, becomes more flexible, and if employees are granted more powers to work independently, it becomes harder to distinguish between an employee and an external freelance worker or a worker provided by a third-party company.<sup>17</sup>

## 6. Liability and Safety Risks

The introduction of intelligent algorithms and more independent production robots will create new risks for employees and employers. At the moment, a spatial separation between robotic and human workers characterizes production facilities. In the world of work of tomorrow, human workers have to collaborate with robots and intelligent algorithms. Work will be characterized by the use of connected technical wearables (e.g. data glasses or fitness trackers). In the production sector, risk analyses must be carried out in advance.

Also software faults can come into consideration as potential safety hazards relating to autonomous systems and assistant robots. Recently, the European Parliament voted for a resolution concerning the introduction of legal standards for robots and intelligent algorithms (e.g.

"electronic person") and a compulsory insurance to compensate for occurred damages caused by the systems.<sup>18</sup>

Self-employed contractors are not released from liability. If an independent contractor destroys the principal's property while working for the principal, he has to pay full damages whereas the employee's liability is limited in most cases.

## 7. Working Time

In the future, employees and employers will agree on a flexible management of working hours. The breakdown of the boundaries for working hours also makes it possible to implement working life time models that are beneficial to the "work-life balance," especially in the "rush hour of life". In most European countries, the maximum working hours or rest periods are exceeded in everyday practice. National and European lawmakers should create frameworks offering more flexibility and less strict regulations to avoid this legal uncertainty (e.g. daily rest periods).

Some (older) alternative working-time models will become common, especially for the younger generation. Examples are home office, job sharing, on-call work, zero-hour contracts, employee-sharing, sabbaticals or reduced working time models for older

---

<sup>17</sup> "The On-Demand Economy and the impact on employment law", *International Bar Association Employment & Industrial Relations Law September, 2016*, p. 26.

<sup>18</sup> <http://www.spiegel.de/netzwelt/netzpolitik/kuenstliche-intelligenz-eu-parlament-fordert-regeln-fuer-roboter-technologie-a-1134949.html> (last accessed on February 17, 2017, 7:21 a.m.).

employees. However, there are individual legal risks concerning the contractual design of every alternative working time model. In most cases, negotiations with employee representatives will be necessary.

#### 8. Remuneration

The breakdown of boundaries in terms of the place of work and working hours makes it difficult for the employer to check how many hours the employee actually worked. There is no factor linking the time/wage system, which makes this system unattractive for employees and employers alike since, in general, the employees' motivation is enhanced by more performance-related payments. In the future, elements of performance-linked payment—or alternatives like stock options, annual bonuses or company pensions—will thus be used increasingly also with regard to non-executive employees.

The central issue regarding performance-related remuneration structures is not the type of agreement, but how to define "performance-related". A combination of an individual team target (turnover or a "soft target") and the turnover achieved by the employing company or the turnover achieved by the group is possible.

#### 9. Data Privacy and Big Data

---

<sup>19</sup> <http://www.faz.net/aktuell/wirtschaft/netzwirtschaft/was-taugt-die-eu-datenschutz-verordnung-13972055.htm> (last accessed on February 13, 2017, 5:13 p.m.).

For big data analyses, the data are anonymized and exist in an unstructured form. Thus, in most countries big data analyses do not violate applicable law. For companies, data are not only an asset worth protecting, but at the same time merchandise and thus called the "oil of the future".<sup>19</sup> Nevertheless, the EU General Data Protection Regulation, applicable as of May 2018, provides that collecting personal data without a permissive rule is prohibited in all European countries. U.S. data privacy protection laws are not based on the general assumption that data are confidential, but provide for data confidentiality in individual cases (e.g., with regard to health insurance and the protection of minors). Additionally, at least in the EU the introduction of many technical aids (production robots, wearables, intelligent algorithms and the employees' own devices) is also not possible without the consent of employee representatives.

#### D. Conclusion

It is certain that both blue and white collar sectors will be affected to the same degree.<sup>20</sup> A high level of unemployment in some sectors will be unavoidable, even if the major share of jobs will be shifted to a different area of work, mainly to the service sector where new service models will be

<sup>20</sup> <http://www.pewinternet.org/2016/03/10/public-predictions-for-the-future-of-workforce-automation/> p. 5 (last accessed on February 12, 2017, 10:44 a.m.).

created. Finally, AI will result in growth and prosperity: employees will also benefit from flexible solutions concerning working time and the place of work caused by the introduction of AI.

The digitalization (and automation) of services is a global phenomenon affecting a far-reaching and diversified field of advisory services in general and the labor and employment law in particular. It would be desirable if future laws were to take the technological developments and the increased need for flexibility into account.

Artificial intelligence is creating a gap between existing legislation and new laws necessary for an emerging workplace reality.

**Past Committee Newsletters**

Visit the Committee's newsletter archive online at [www.iadclaw.org](http://www.iadclaw.org) to read other articles published by the Committee. Prior articles include:

NOVEMBER 2016

International Conflicts of Service  
Stacey Hsu and Daniel Reisler

AUGUST 2016

Independence Day  
Bill Perry

MARCH 2016

Intellectual Property in Ukraine after the Association Agreement: On the Way to an Effective Level of Regulation  
Maria Orlyk and Aleksandra Kondratenko

MAY 2015

Cyber Security for International Lawyers  
Bob Craig and Norman Comstock

FEBRUARY 2015

A Commentary on the United Kingdom's Reappraisal of the Law as it Relates to Insurance Contracts  
David Wilkinson

JANUARY 2015

A Review of Forum Non Conveniens in the United States and the Factors in Deciding Whether to Pursue an FNC Dismissal  
Barry Davis

OCTOBER 2014

Litigation Funding in Australia - A Proposal for Reform  
Stuart Clark

JUNE 2014

France and Belgium Adopt Class Actions Spring 2014  
Christopher Scott D'Angelo and Jennifer Canfield

MAY 2014

Lago Agrio-Transnational Enforcement of Judgments  
Be-Nazeer Damji

MARCH 2014

Pension Plans and Class Actions: The *Vivendi* Case  
Louis Charette, Josée Dumoulin, Bernard Larocque and François Parent

FEBRUARY 2014

Canadian Price-Fixing Class Actions: The Supreme Court of Canada Gives the Green Light to Indirect Purchaser Claims  
Steven F. Rosenhek and Vaso Maric