



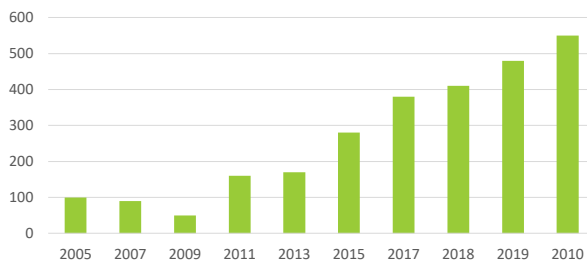
SGH

## Digitalization and education in the perspective of the employers' forecasts

IZABELA BUCHOWICZ

WARSAW SCHOOL OF ECONOMICS

The number of industrial robots installed in the world in thousands



The number of industrial robots per 10 thous. of the employed in the industry in the selected countries of the world in 2017

up to 200  
China  
Switzerland  
Taiwan  
USA

between 200 and 400  
Denmark  
Sweden  
Japan  
Germany

over 400 (about 700)  
South Korea  
Singapore

### **Environmental areas influencing University graduate in the era of the fourth industrial revolution:**

1. Demography and migration
2. Technological development
3. The level of human capital development
4. Globalization, integration and protectionism
5. Ecological and climatic challenges

### **Competences of the ideal tertiary school graduate according to the employers' opinion:**

- effective communication and optimistic attitude,
- openness to learning and continued development,
- activity and involvement at work, resourcefulness, entrepreneurship,
- flexibility and ability to adapt,
- team work skills and ability to work independently,
- aspiration to achieve results,
- responsibility,
- ability to identify and solve problems,
- ability to use ICT tools,
- humility and loyalty to the employer,
- solid professional knowledge and fluency in foreign languages.

### **The main objectives of tertiary education in accordance with the assumptions of the Bologna Process:**

- preparing graduates for the labour market – the domestic and European ones,
- developing and sustaining wide bases of the advanced knowledge – particularly important for creating societies and economy based on knowledge,
- preparing graduates for being active citizens in democratic society, shaping attitudes facilitating the community of the Europeans,
- personal development of the educated.

### **New phenomena on the labour market:**

- employee sharing by a few of employers,
- work sharing by a few employees,
- emergence of expert's work, while experts will be for hire during the course of a project,
- teleworking with the use of ICT,
- voucher work, i.e., work package purchased from the agency,
- portfolio work, i.e., self-employed person performs work for many clients,
- crowd working via a platform, i.e., tasks are divided between various employees,
- on call work, i.e., the employer calls an employee when he/she is needed, without regular working hours.

**Threatened occupations:**

- office work, clerk's work, including the work of bank or post office clerks, insurance agent's work, bookkeeping, human resources and remuneration department workers, civil servants and administration clerks;
- logistics and transportation,
- sale and trade,
- industry and manufacturing (electronic, motor vehicles, machinery, and processing industries),
- occupations which require low and moderate competences

**Occupations for which the demand will increase:**

- analysts,
- data bases architects,
- data miners,
- software and applications developers,
- AI specialists (professionals),
- designers and producers of new intelligent machines and robots,
- professionals (specialists) in the field of digital marketing and e-commerce,
- e-leaders with ability to combine computer, business and managerial competences,
- occupations which require specific skills and competences which are difficult to define through an algorithm,
- occupations requiring originality, creativity, ingenuity and ability to come up with new ideas,
- occupations requiring forging direct relationships with people, e.g. therapist.

**Scenarios of changes anticipated in the process of education:**

1. Institutional changes in the social and economic system in Poland and in Europe,
2. Changes in the Global market resulting from a development in technology, including digital technologies,
3. Social changes related to the evolution of attitudes among the students representing the Y and Z generations

---

**Thank you** 😊

