

## Human Rights and the New Technologies of the Fourth Industrial Revolution

### I. Introduction

#### 1. The Five Industrial Revolutions

1<sup>st</sup>: use of steam power; 2<sup>nd</sup>: use of electric power and assembly lines for mass production

3<sup>rd</sup>: use of electronics and IT to automate production, rationalise office work, facilitate communication

4<sup>th</sup>: use of highly integrated smart and autonomous devices and systems (*era of digitalisation*)

- *artificial intelligence*, mobile supercomputers, intelligent robots, drones & weapons, self-driving cars, driverless public transport, internet of things, 3D printers, quantum computing
- massive paperless, automatised flow and smart use of data covering all areas of life

5<sup>th</sup>: the coming era of biological and genetic engineering

#### 2. The challenges of the Fourth Industrial Revolution

##### a) The new techniques - bright future or dystopia?

- the risks for public security, the imminent threat to privacy, the risk of disintegration of society, social media as a threat to democracy

##### b) The need of a comprehensive, multi-disciplinary approach

- the important role of social sciences, political science and legal science

### II. The rights endangered by the Fourth Industrial Revolution

#### 1. A potential threat to *all rights* of the citizen

- due to risk of technology abuse, risk of accidents caused by technical failures, and side effects

#### 2. Often affected: property, right to physical integrity and right to life

- due to the numerous accidents to be expected

#### 3. Indirectly affected: all rights encouraging the free personal behaviour

- under the psychological pressure of the permanent surveillance
- in particular freedoms of expression, assembly, association, religion, general freedom of action

#### 4. Mainly concerned: the *right to privacy and connected rights*

- due to the massive collection, use, commercial exploitation and public availability of personal data
- rights guaranteed under art. 17 ICCPR, 16 CRC, 22 CRPD, 8 ECHR, 7 EUChFR, 11 ACHR, 21 ArChHR and numerous constitutions; see also art. 12 UDHR, 21 ASEAN Human Rights Declaration
- highly developed and differentiated in Germany: distinct rights • to privacy, • in one's own picture, • in one's own spoken word, • of informational self-determination (data protection) and • to ensured confidentiality and integrity of IT systems, combined in a general right of personality

### III. General aspects: the legal relevance of human and fundamental rights for the admission, use and regulation of the new techniques

- on terminology: • "human rights": the pre-legal ("natural") rights of the human being (according to philosophical doctrine) and the rights guaranteed in human rights treaties (who pretend just to reflect them); • "fundamental rights": the legal positions created by the implementation of this doctrine into the (constitutional) law

#### 1. International human rights and constitutional fundamental rights as directly binding law

- *directly applicable legal norms* addressing to *all public institutions* that must be respected and enforced effectively
- private persons not directly bound (→ *no direct horizontal effect*)
- violations can often be avoided by interpreting the law "in the light of" the human and fundamental rights

#### 2. The state's obligation to respect the human/fundamental rights

- limits the use of the new technologies by public authorities
  - encroachments must be justified by the *legitimate aims* specified in the relevant limitation clause
  - *principle of proportionality* requires *suitability, necessity and proportionality in the strict sense* (→ thorough balancing)
- no new problems, since before, authorities could achieve their aims by Third Revolution technologies

#### 3. The state's obligation to protect the human/fundamental rights against private encroachments (→ duties of protection)

- state must intervene actively to protect the citizens
  - the doctrine of *positive obligations* of the European Court of Human Rights
  - the doctrine of *duties of protection* ["grundrechtliche Schutzpflichten"] of the German Federal Constitutional Court
- the problem to harmonise the duties to protect and to respect
- no admission of new technologies that are incompatible with human/fundamental rights
- the *obligation to regulate* new technologies in order to exclude abuse and minimise risks and side effects

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4. General approaches to perform the state's duties of protection
  - a) Prevention of risks by administrative control of the use of potentially harmful devices and technologies
    - requiring *special permissions for their operation* (e.g. for drones from 5 kg or at night in Germany)
    - requiring *special driver's licenses for their use* (e.g. for drones from 2 kg in Germany)
    - *detailed regulation of their use* (e.g. drones regulations in Europe/EU law)
  - b) Ensuring the accountability of operators, users and providers
    - aa) Ensuring the indentifiability of internet platform and social media users
      - by requiring the deposit of verified identity data with the provider
        - access of authorities to these data should require judicial approval
      - by requiring the use of real names in public political discussions
    - bb) Compulsory liability insurance for the operation of autonomous devices
    - cc) Strict liability (liability without fault) for the operation of autonomous devices and potentially harmful smart technologies
      - the **problem** to distribute the liability among the various operators, providers and producers involved
      - also **strict liability of social media providers for encroaching content** posted on their platforms
        - the most effective way to *fight hate speech, defamation, threats, incitement to crime...*
        - providers not innocent but operators of an extremely dangerous and harmful machinery
        - proposal: victim must gain *civil compensation in the form of a lump sum* in a quick and simplified procedure *directly from the provider*, who then may have recourse against the responsible user
  - c) Ensuring a fair distribution of risks and choices by regulation in the law
    - sensitive issues cannot be left for regulation in the imposed general terms and conditions of the provider/operator!

#### IV. A selection of special problems

1. Problems concerning privacy and connected rights
  - a) Problems concerning the state's obligation to respect
    - no new problems but need to *separate the large amounts of data* collected for different purposes
  - b) Problems concerning the state's duty of protection
    - currently insufficient protection in almost all states; the EU GDPR as an important step...
    - aa) The need to effectively ensure user awareness of the costs and risks for privacy
      - proposal: *mandatory written form with signature* resp. *notarisation* for the consent to far-reaching resp. very far-reaching privacy encroachments
      - proposal: a **mandatory privacy button** in apps, software and websites allowing to monitor and control which data are currently being transmitted
    - bb) The need to *limit private data collection and processing by mandatory law*
      - the need of limits that cannot be overridden by "consent"
      - in particular: strict *limitation of profiling*
      - in particular: strict *limitation of data sharing and merging*, which makes the helpful classical distinction between differently protected spheres (social, private, intimate sphere...) inoperative
2. Problems concerning other human and fundamental rights
  - a) The sharing economy and the social rights
    - Do the rights of "workers" apply? Do they require special legislation on crowdworking?
  - b) Artificial intelligence and intellectual property
    - Does the right to property guarantee intellectual property on AI-generated content?
  - c) Robot judges and justice rights
    - Do the rights to effective legal protection and to the lawful judge allow to replace judges by AI-based systems?
  - d) Predictive policing and non-discrimination
    - Is AI-based crime prediction discriminating because it reinforces existing biases against minorities?
  - e) Autonomous lethal weapons and human dignity
    - Must a decision to kill be taken by a human, in order to avoid degrading the target person to a mere object?

#### Further Reading

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