



Using Al Robots in Medicine: The Interplay Between Technology, Medicine and Law as a gateway for discovering appropriate liability regime

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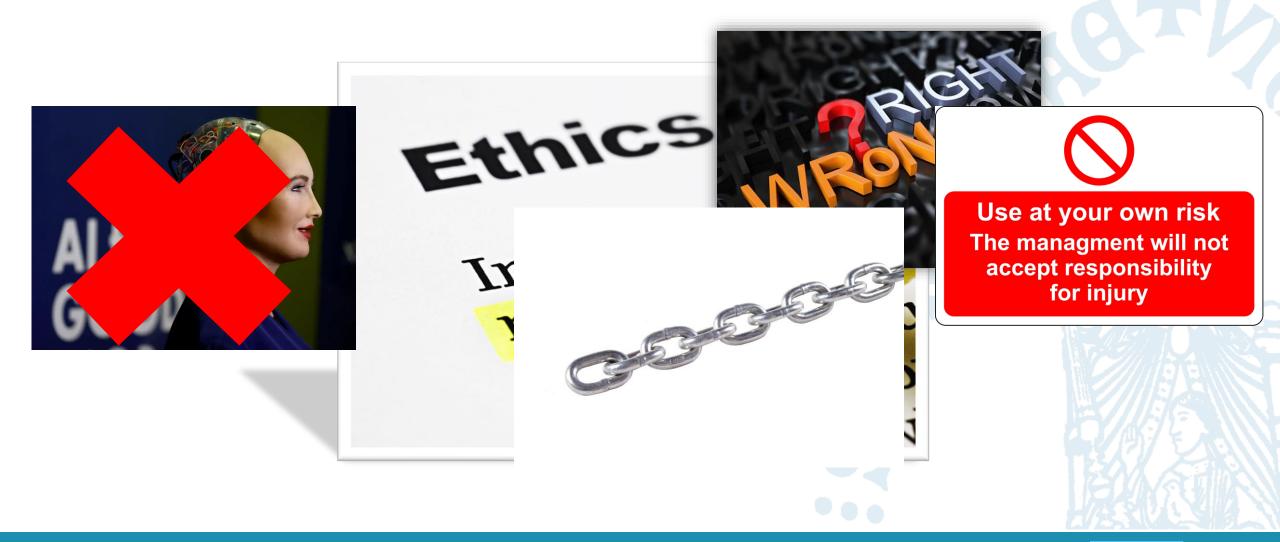




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- Concerns regarding technology
- Concerns regarding medicine
- Legal liability and AI-powered robots
- Preliminary conclusion



#### Introduction





#### Introduction to the research idea

Theory of Legal Liability (the perspective of the general theory of law):

Human personhood- An unlawful act- Consequences

An expression of the condemnation by the state of illegal conduct that consists of an obligation to bear a deprivation

The observance of the norms of law, applied by the state organs against those who commit illegal acts

The sanction of the criminal act, the consequence established by law for committing such an act

A deprivation applied to that person, a state constraint by which the person in question is obliged to execute the requirements of law



#### Introduction

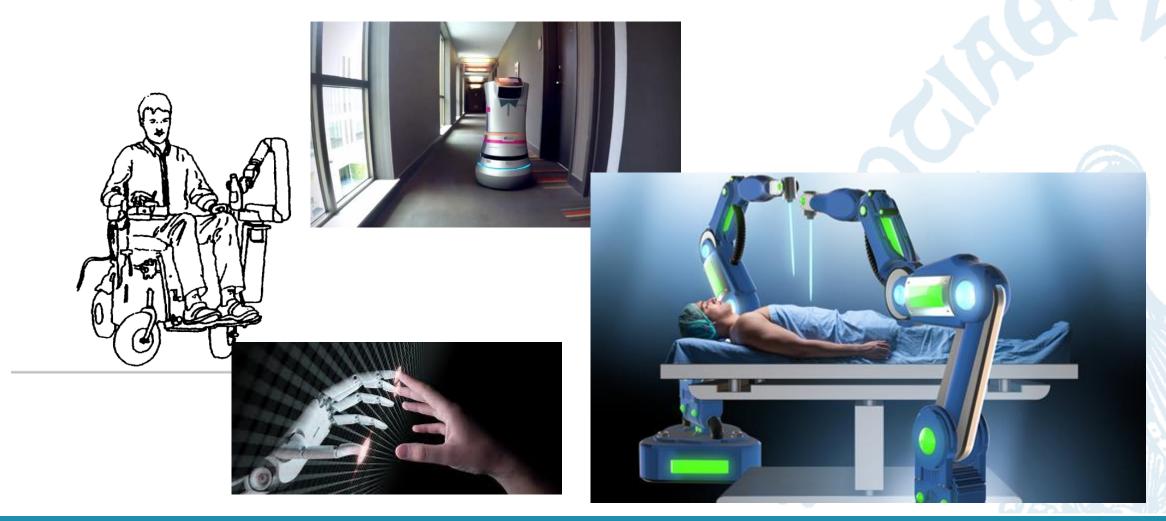


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To be holder of legal liability means to be subject to it - the ability of one person to be legally liable for illegal conduct is the ability of another person to be held legally liable by submitting an action to the competent court - the ability to answer and ability to prosecute



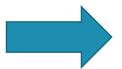
# Research questions

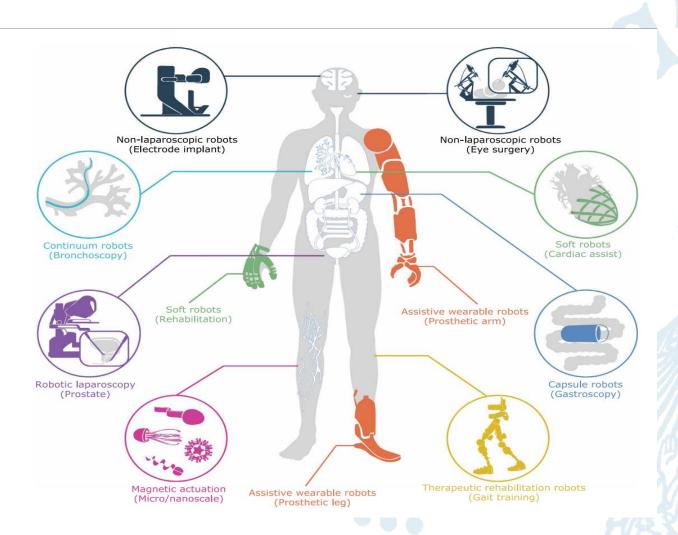




#### Introduction to the research idea

Developments until 2023







# Concerns regarding technology

Operate digitally

No human intervention

Operate physically

**Direct human intervention** 

Al-powered robots

As a service provider

AI- powered robots

As an operator instead service provider



# Concerns regarding technology

The ability and need of humans to explain has been studied for centuries, initially in philosophy and more recently also in all those sciences aiming at a better understanding of intelligence (Sovrano et al., 2022)

Cognitive robotics is the study of the knowledge representation and reasoning problems faced by an autonomous robot (or an agent) in a dynamic and incompletely known world. (Levesque, Hector, and Gerhard Lakemeyer.,2008)

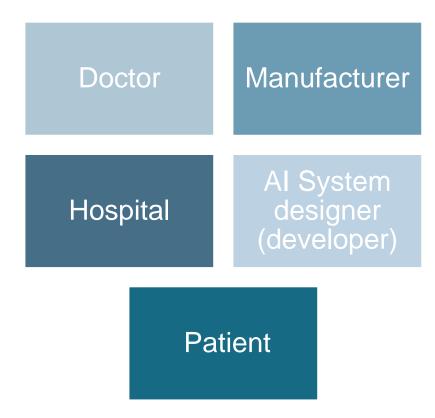


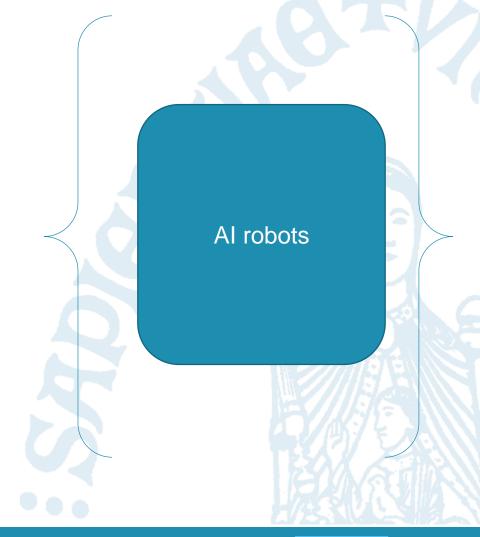


# Concerns regarding medicine



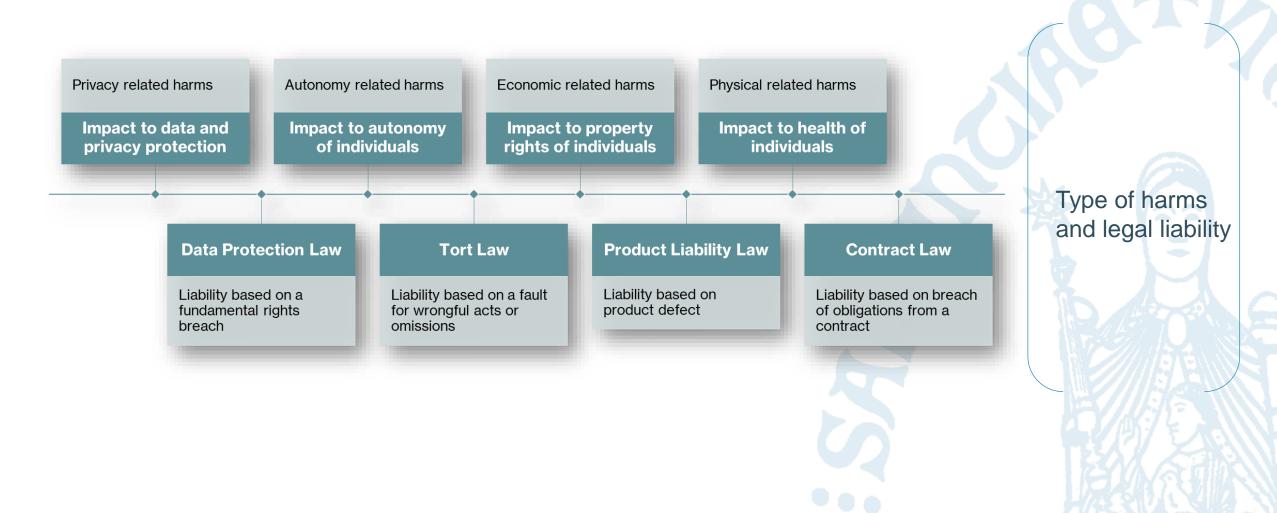
Legal liability and AI robots in medicine







## Legal liability and AI robots in medicine





# Legal liability and AI robots in medicine

Non-specific sectoral rules Specific sectorial rules e.g., Product liability (Contract and Tort Law) e.g., Medical Devices Regulation Sources for legal liability in the EU



### Preliminary research findings

#### Al- powered robots in medicine

- Machine-to- machine relation
- Machine- to- human relation
- Liability ex-ante and ex-post

### Liability models

- The interplay between human and machine
- The interplay between different links in a chain





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#### THANK YOU.

Dr Maja Nisević, postdoc researcher, CiTiP, KUL