

# **ROBOTICS - CHANCES AND CHALLENGES OF A KEY SCIENCE**

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*Abstract. Robotics has been named a key science of the 21st century. The means and methods of mechatronics and robotics are spreading to other engineering sciences, and to medical areas, offering huge chances for novel products. The development of robots into intelligent machines touches upon issues such as the self-understanding of humans, upon socio-economic, legal, and ethical issues. It may be good to step back for a moment and reflect on objectives, on chances, and on limitations and controversial aspects to be considered. Examples for applications in medicine, robots in service and edutainment, robots for work in micro- and nano-techniques, and extensions to embedded robotics will be presented.*

*Keywords. Robotics, Mechatronics, Intelligence, Ethics, Legal constraints.*