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## **ROBOTICS FOR BEGINNERS**

Robotics is an applied science, focused on the creation of robots and robotechnical systems directed to the automatization of complex technical processes[1].

The study showed the existence of two boards (Mindstorms and Arduino), necessary to work with robotics, which do not require high knowledge of physics or mathematics.

Mindstorms is a popular model of designing robots for children and beginners in terms of quality, price and availability. Most societies of young robotic technicians are equipped with the motherboard. This model is also practised for self-training. Many experienced robotic technicians believe that this board is recommended to be used by 7-10 year old children. Designer collections are available in different variations, ranging in price as well as in the set of contents [3].

Arduino is the hardware computing platform, which is based on the components of input and output board. It can be switched to any software (SW), and create stand-alone interactive objects. The board includes analog, digital ports that allow you to connect simple devices such as a monitor, sensors, buttons and more. They are suitable for beginners and children who reached the age of 10. This platform unlike Mindstorms requires a more practical skills, but it is easier to facilitate it with different devices from other manufacturers, it also has a moderately lower price. Arduino manufacturers recommend starting with a set “The Arduino Starter Kit” [2].

Market studies showed that there are many clones of the original boards on sale which are not much different from the original and have a moderately lower price. Starter kits can be ordered via the Internet, from the original site developer (often using such sites as AllExpress and DealExtreme).

In conclusion, it should be emphasized that the above mentioned boards are very suitable for a beginner. Their use can expand the understanding of robotics, help a person to develop his/her technical abilities and make it possible to move to more serious work.

### **LITERATURE**

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