



Do we need robots?

1. The word “Robot” first appeared in a play by Karel Capek called R.U.R., or Rossum’s Universal Robots and stayed in our lives as deadly non-human characters in literature for a long time. It wasn’t until the 1960s when a truly so called robot was developed according to our definition of a robot. The SRI International in Silicon Valley developed Shakey, a completely mobile and perceptive robot, which could be described as a Robot, which is an intelligent, physically embodied machine which can sense and manipulate its environment.

2. The definition is indeed very broad, and many are the variations and interpretations. In a general sense of the word, a drone people can fly around isn’t a robot. Although if it was properly equipped with the power of taking off and landing on its own, and of sensing objects, it would then be turned into a robot. The key lays in the robot being intelligence, autonomy and sensing. Shakey, our first robot, for example, could navigate an intrinsic environment. It wasn’t as reliable as you might expect, but it was the onset of what was the future of robotics.

3. It is in the manufacturing industry where we can see the wonderful benefits of this technology. The first one among them is Unimate, which works non-stop in car factories doing tasks which are both boring and dangerous for human co-workers. These robots have shown more accuracy and speed than ever achieved by us humans at the same tasks. Even though this first one wasn’t mobile, as it was fixed on a spot. It is widely considered to be a robot as it senses and manipulates its surroundings.

4. Sensors, as we can see, make all the difference. It’s a device which shoots out lasers to build a mind map of its surroundings to allow the robot to operate on them. Sensors like Lidar were what made it possible for the 2004 Darpa Grand Challenge to watch self-driving cars race through the desert for everybody’s amazement. The increasing production of these sensors has helped the private-sector to develop multiple perceptive robots thanks to its growing competitive prices.

5. Contrary to literature and movie characterisation of robots, new robot technologies promise not to kill us, but to make our lives safer and more comfortable. It will be harder and harder to have a car accident in the future, as cars will be equipped with movement sensors able to stop the car for us when danger approaches. They will be able to see where we can’t, around corners, spots the human eye can’t reach, and prevent accidents otherwise inevitable. Not only are they safer, robots are getting smarter too. Driverless vehicles have already started to be tested and promise a future of driving without a license.

6. Where does it stop? Will robots replace us? Even though the range of human emotions is hard to simulate through technology, a company called SynTouch has developed robotic fingerprints which can detect a range of sensations, from temperature to coarseness. Columbia University has created a robot able to replicate touch with light, so to say, it sees touch thanks to a series of embedded LED lights, covered with a silicone layer. The physical changes in this layer allow the robot to “see” touch.