

The impact of using robotic technology



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Robotics technology is increasing at a fast rate, providing us with new technology that can assist with home chores, automobile assembly and many other tasks. Robotic Technology has changed the world around us and is continuing to impact the way we do things. Robotic technology transformation from the Past to Present surrounds almost everyone in today's society, and it affects both our work and leisure activities. The definition of the word robot has a different meaning to many people and most people have their own definition and meaning for the word robot. According to the Robot Institute of America, 1979 a robot is a re-programmable, multifunctional manipulator designed to move material, parts, tools, or specialized devices through various programmed motions for the performance of a variety of tasks. The use of robots continues to change numerous aspect of our everyday life, such as health care, education, and job satisfaction. Robots are growing to be a major part of the world economy, they help ways to make our daily life easier and assist in producing more products. Robotic technology is becoming one of the leading technologies in the world. They can perform many functions; robots are used in many different ways in today's society. The use of Robotic Technology has made an immediate impact on the world in several ways.

Body

Industrial robots

First, the industrial robot has help changed the industrial workplace. Thousands of companies depend on the output and quality performance offered by the current industrial robots. Industrial robotics has emerged as a popular manufacturing methodology in several areas in recent years,

including welding, materials transport, assembly, and spray finishing operations. The use of industrial robots has helped to increase productivity rate, efficiency and quality of distribution. Industrial robots have significantly changed factories and businesses all over the world. Today's industrial robot provides companies with a lot of advantages. These robots alone have changed products production and the industrial work place.

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Improved technologies have made the industrial robots easy to use, inexpensive, and smarter than ever before. The industrial robots can perform jobs with precision, speed, and reliability. The industrial robots have enhanced product quality and improved industrial operations with increase output of products. Having these robots keep workers from having to tolerate boring, dangerous or exhausting jobs. Robotics is an increasingly visible and important component of modern business, especially in certain industries. Robotics-oriented production processes are most obvious in factories and manufacturing facilities; in fact, approximately 90 percent of all robots in operation today can be found in such facilities. These robots, termed " industrial robots," were found almost exclusively in automobile manufacturing plants 20 years ago. But industrial robots are now being used in laboratories, research and development facilities, warehouses, hospitals, energy-oriented industries (petroleum, nuclear power, etc.), and, above all, in research.

Military robots

Second, the military robot is used for bomb disposal, Search and rescue missions, aerial recon, and attack operations. Military robots come in different shapes and sizes according to their military purpose. A military robot can be programmed to conduct a specific task or mission routes can also be put into military robots. A military robot uses GPS it also have the ability to solve certain problems on its own. Military robots are pre-programmed to follow a certain route and it can warn soldier if it senses any type of movement as well as other programmed conditions. These robots act in according with the instruction given by the operator. Military robots are also equipped with a camera to provide soldiers with view of the battlefield and dangerous obstacles. These robots are often used to disarm mines and “improvised explosive devices.

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The American soldier has a dangerous job, but some soldiers perform jobs that put their lives in danger all the time. We can use military robots to Cross through minefields, disarming bombs, clear mines and caves in which soldiers have to do. By using robots we can keep soldiers out of harm’s way, we also use robots to do these dangerous jobs. Using robots to conduct these types of dangerous jobs saves lives, instead of losing the life of a soldier we would only lose an expensive piece of equipment in which we can replace. The rising interest in robots in the late 1990s coincided with changing political winds-a shrinking U. S. military as part of the post-Cold War so-called “ peace dividend,” and an increasing belief that public

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tolerance for military risk and casualties had dropped dramatically after the relatively costless victory in the Gulf War. In 2000, this was the main factor that led Senator John Warner (R.-Va.), then chairman of the Armed Services Committee, to mandate in the Pentagon's budget that by 2010, one-third of all the aircraft designed to attack behind enemy lines be unmanned, and that by 2015, one-third of all ground combat vehicles be driverless. And then came September 11, 2001. The annual national defense budget since 9/11 has risen to \$515 billion (an increase of 74 percent between 2002 and 2008), not counting the cost of operations in Afghanistan and Iraq. There has been a massive increase in spending on research and development and on procurement, with a particular focus on anything unmanned. "Make 'em as fast as you can" is what one robotics executive recounts being told by his Pentagon buyers after 9/11. Enthusiasm has only grown thanks to successes on the battlefield.

The important thing about military robots is that they are built to assist soldiers on the battlefield. Some of these robots are built to be carried by the soldier helping them to complete their mission. Having these robots have protected soldiers from dangerous situation and lessen the risk of putting soldiers into harm's way. Military robots play a very important part in combat operations throughout the world. By having such robotic technology it has notably made the U. S. military a superior power in the world having such technology has significantly increased our military standing as being one of the most powerful militaries in the world. The army's race during the cold war generated some of the greatest technological achievements in human

history. If our military stop spending money on robotic technology, we put our country at risk.

Medical robots

Next, the medical robot is helping to change the medical field. A medical robot has become one of the most beneficial robots in the world. These robots are used to train surgeons, assist in difficult and precise surgical procedures, and to assist patients in recovery. Medical robots are used in a range of medical practices, including difficult and precise surgical procedures. Medical robots are equipped with a computer-integrated technology that contains a complex of programmed languages, controllers, and advanced sensors. Medical robots are currently being used for training surgeons and providing detailed information to students. These robots offers routine procedure, which cut down on the time needed to perform any medical operation. These robots provide accurate placement and limited movement that can help to improved surgical procedures. Robot-assisted surgery provides many benefits in the surgical care of patients. Computer-assisted robots provide exact motion and trajectories to minimize the side-effects of surgical intervention. Surgeon-guided robotics allows the surgeon to access patient anatomy with smaller incisions. The medical robot offers medical personnel a major advantage in precision and efficiency in medical operations. A medical robot gives doctors the ability to view medical records, view X-rays, interact with patience's, and to view test results. Although robots cannot actually check patients they, give doctors the ability to have social interaction with each other by using a screen attached to the medical robot.

See full size image See full size image New technology in the field of medical robotics will soon change a doctor's ability to interact with their patient. The use of WiFi technology in the medical robots will soon allow medical personnel to interact with their patient from anywhere in the world.

Domestic robots

In addition, the domestic/ household robot comes in different types and serves various purposes they range from robotic movers, robotic vacuum cleaners, robotic pool cleaners, toys, and floor washing robots. Domestic robots of these types must be setup properly to perform their jobs. Once put together correctly these robots will be very reliable and will need a small amount of human interference to operate correctly. However, some domestic robots require a lot of involvement from people such as the vacuum cleaner. Companies are always looking for ways to limit the amount of interaction that people have with domestic robots. A domestic robot of some sort can be found in almost every household in the world. Some domestic robots are equipped with a timer so that it shut itself off when finished with a task. Domestic robots are on the brink to take over the household duties. We use these types of robots to help with chores around the house, entertainment, and for educational purposes. We also purchase this type of robots for our children and loved ones. Domestic robots will one day take on the responsibilities of a maid making life easier for families. Domestic robots have been slowly putting themselves in position to take over all the duties around the household. Each year, robots are entering domestic environments in increasing number. By 2012, it's estimated that 7.8 million robots will be in domestic settings. These robots are intended to help with

household chores, act as home health aids, and serve as companions and entertainers for people. However, because the field of domestic robotics is birthed from industrial robotics, many of these robots in the home still look and behave like they belong in a factory. Their interactive styles are often not well-suited toward the wide variety of home users that exist. Domestic robots will soon be able to assist with all the household duties. These robots have been around for years and each year they become more advanced in their operational purposes. They will soon be able to help the elderly around the house.

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Humanoid robots

Lastly, a humanoid robot is a robot with its overall appearance based on that of the human body, allowing interaction with made-for-human tools or environments. In general humanoid robots have a torso with a head, two arms and two legs, although some forms of humanoid robots may model only part of the body, for example, from the waist up. Some humanoid robots may also have a 'face', with 'eyes' and 'mouth'. Androids are humanoid robots built to aesthetically resemble a human. A humanoid robot is an autonomous robot because it can adapt to changes in its environment or itself and continue to reach its goal. Humanoids will one day show emotion, make decisions, and interact with humans. Humanoids Robots are currently being used as a research tool. They help researchers to better understand the human body structure and human behavior. Humanoids robots are also being made to take on some of the duties of a human. The humanoid robots that we see on TV will one day become a reality. The research in humanoid

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robotic technology is rising and will soon change the world. Having a robot that can serve as a human and that can do all the task of a human will assist in the learning and research process. To date, humanoid robots can perform certain tasks on their own through voice commands from a human-being.

<http://images.businessweek.com/ss/05/06/robots/image/firstslide.jpg>

Humanoids will soon prove to be the perfect robot that will be able to mingle with people. Humanoids robots will someday be in the workplace and our home taking on some of the responsibilities of a human. With further research in the field of humanoid robots, things that were initially only envisioned in science fiction movies and novels may be possible. By replicating the physical and cognitive structure of actual humanoids, scientists can learn how the beings obtain their attributes. Breakthroughs biomechanics have already produced artificial body parts which offer better replacements for humans who suffer injuries to their bodies.

Conclusion

In summary, the use of Robotic Technology has made an immediate impact on the world in several ways. Robotic technology is evolving rapidly into the 21st century. The advantages of using robotics have been understood where they have become a part of our common occurrences and everyday lives.

Robotic technology can be found in stores, hospitals, homes, the work place, and on the battlefield. Robotics is often used to do jobs that could be accomplished by humans. In other words, there are many reasons why robots may be better than humans in performing certain tasks. We use robots because they are faster than individuals at carrying out tasks. Robots

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can also work in conditions that would be a danger to humans. Robots can withstand a greater amount of heat, radiation, chemical fumes, and other hazards that humans cannot. They can perform repetitive tasks that may become boring to humans. Robotics offers efficiency in which they have the ability to accomplish a job without wasting time and effort, energy, or materials. In addition, robotics offers accuracy for assembling parts and performing complex procedures. Furthermore robotic offers adaptability in being able to accomplish more than one task. Robotic technologies present the world with different uses and convenient ways to accomplish a variety of jobs. With the advances in robotic technology we have found ways to make our life more convenient, protect lives, increase product output, and research.