

# Impact of Robotization on Indian Industry

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**Abstract :** The Field of Artificial Intelligence ( AI ) tries to make computers do things that , when done by people , are described as having indicated intelligence. The goal of AI has been characterized as both the construction of useful intelligent systems and understanding of human intelligence. The introduction of robots leads to a reduction of direct labor, whereas it stimulates the investment activity of firms and thereby brings about a rise in indirect employment. This paper attempts to evaluate impact of robotization on Indian industry. The method use to find impact of robotization in Indian industry by using survey method. The forecast for the current five years (2007-2012) is that robotization will result in a net effect of a 5 thousand-person decrease in employment.

**Keywords :** Artificial Intelligence , Robotization

## INTRODUCTION

Now a day's robot made a important part in human life. In starting robot began as for entertainment but now days they have impact on industry.

Robotics produces higher quality and lower cost to the manufacturing industry. But this can cause loss to the unskilled jobs but create new jobs for skilled people in software and sensor development. These machines will have to be maintained and people will have to be trained on there repair. So you could loss unskilled jobs and maybe train these same people in skilled and the overall loss may not be that bad. (MSN Learning & Research. 2002.)

Robotics on the production line takes away many jobs that were done by humans and this is less cost to the company but lost jobs for paid labor workers.

### What will robots do for us?

Automation currently exists in areas such as water management or unmanned aircraft that fly and shoot missiles, but whole new areas of robot use will open up in future. One such use will be in a medical context, as exoskeletons to help disabled people move, helping to make them less dependent on others. Even more significant will be the insertion of robots into our bodies, such as intelligent implants in the brain, which will improve our rational thought, and Nanorobots to be released into the blood to clean our arteries.

Another important role will be the replacement of people working in the areas of security, surveillance or defence. According to Professor Lopez Peláez, it is predicted that 40% of armies will be automated with robot soldiers by 2020 "just as a car factory is today, which will result in less human deaths during violent conflicts".

Robots will be intelligent machines to be incorporated into both domestic and industrial life: they will help us to clean our houses, will milk cows on farms, and will be programmed to work 24 hours per day in factories without resting, with a yield equivalent to three day shifts. In addition, replacing human labor with robots will prevent workers from being exposed to dangerous, stressful or unhealthy environments, thus reducing labor-related risks.

### Industrial Robot Configurations

#### Vertically Articulated

The multi-jointed arm of a vertically articulated robot is connected to the base with a twisting joint. The links in the arm are connected by rotary joints. This type is often called jointed-arm. The majority of Robot Worx' industrial robots fall into this category. Cartesian

This robot is limited to x, y, and z movement. It is also called a rectilinear robot. All of the robot arm links are connected with linear joints. The work envelope is square.

#### SCARA

The Selective Compliance Assembly Robot Arm is ideal for precision work within one plane. Its work envelope is cylindrical. It has two horizontal joints. Here are some Motoman SCARA robots.

#### Cylindrical

The robot has one rotary joint at the base and two linear joints to connect the links. Their work envelope is also cylindrical.

#### Polar

The arm is connected to the base with a twisting joint and a combination of rotary and linear joints. They have a spherical-shaped work envelope.

## How are Robots used in Industry?

### Robots Rule?

When the world's technology developed to the point where we could create robots to do jobs humans normally did, industrial workers were a little fearful. After all, why keep a person who requires health care, salaries and pension employed when a robot can do his job without tiring? But as the fears quelled, industry realized that robots are extremely useful but can't replace human beings. In fact, there are some places where, if it wasn't for a robot, a human being could actually be lost. This article explores how robots are used in industry.

### Automotive Industry

Robots in the automotive industry are largely used as assembly line workers. With precision programming and steel-reinforced strength, robot arms could piece together major auto body parts in seconds. They can do some jobs that would have normally required two or three human beings to complete in minutes. By using a robot, auto companies reduce the risk of heavy parts falling on humans. Since robots are tireless, it costs a company less to assemble a vehicle.

At first people thought that entire auto robots could do assembly. But there is always a need for human technicians. Also, the cost of some robots to do minor assembly or quality control would be not as efficient as hiring a human being to do it.

### Robots In Space

Humans love seeing robots in space. No, not the R2D2 robots or the "Lost In Space" robots. These are robots that do work for NASA during space exploration. Robots are constantly used to make repairs to the space shuttle or any of the space stations in the Earth's orbit. The space industry also uses robots to make precision instruments and parts like lenses for ultra-magnifying telescopes.

But most famously, robots are used to explore the atmospheres and surfaces of other planets. For example, in 2004 NASA landed the Spirit Rover robot on Mars' surface. The robot has been able to take surface and air samples for NASA to study. But not only did the robot land on Mars to do that, it has traveled the surface of Mars and traversed the edge of Mars' many craters, discovering information that could lead to us understanding our own planet. Of course a human being would probably want to do that, but the average temperature is somewhere around -68 degrees F, sometimes dropping to -220

### Government Use

The government likes to use robots to replace human beings when it comes to extreme danger. Robots are often used by the military to handle explosive ordinance situations. If there is a suspected bomb in a facility that

is difficult to enter, a robot with a camera can be used to get inside that building and, in some cases, actually disassemble or move the explosive. For search and rescue, robots can get inside building ruins and "sniff out" living humans by using infrared cameras and heat sensors. Robots can even hunt mines lurking in the water. As you can see, robots play an important part in our everyday lives. Instead of replacing human beings, robots save them.

### The Impact of A Robotized Society

The study also looks at the possible repercussions of incorporating robots into society. On one hand, just as with uneven access to technologies such as the Internet, they will open up a new gulf, this time a robotic one. This will result in a cultural distinction being drawn between companies and people who can afford to buy robots to help with their activities – and those who cannot. The robotic gulf will also favour more industrialized societies, potentially widening the gap between the first and third worlds, or providing greater possibilities for success in logistics and war. On the other hand, Lopez Peláez says that “just as many Japanese people today believe that their robots are alive, we will attribute human characteristics to robots, and we may even define robots’ rights”.

Another major concern is that if robots are to carry out so many labor tasks and replace human labor, unemployment may rise just as it did in the 19th century with the invention of textile machines. The robotics experts interviewed for this study claim that factories with high robot use will retrain workers to work in other, though possibly more poorly paid, areas. However, they also point out that the situation will balance out with the development of new services involved in the design and maintenance of the robots.

A new study by ABI Research predicts that the personal robotics market will be worth \$15 billion by 2015. The report examines the consumer market for toy robots like Sony's Aibo and the recently released iRobot, as well as increasingly sophisticated single-function “task” robots such as the Romba vacuum cleaner and Looj gutter-cleaning robot from iRobot.

The ABI “Personal Robotics” study also looks at developments in commercial robotics and software development platforms that will play an important role in the future of the market as operating systems become standardized and advances in commercial robotics flow through to consumer products.

ABI says that the forecast growth in the personal robotics market will see major advances at affordable consumer prices and provide revenue opportunities for a wide variety companies, from small robotics-focused software companies and micro controller vendors to larger semiconductor vendors and giants like Intel, Microsoft and the major automotive manufacturers.

Commenting on the industry's future, ABI Research principal analyst Philip Solis says: "Some people may spend as much on a multi-task humanoid robot as they do on a car, buying fewer, but more expensive, robots. This scenario will occur well in the future, but as we reach 2015, we can expect to see an increasing use of complex manipulators."

### CONCLUSION

Finally we have decided that robotization impact effect on Indian industry. Robots improve product quality and performed with precision and high repeatability every time. This level of consistency can be hard to achieve any other way. Due to this reason robot increase the production with higher safety. Robots works that place easily where human body are not able to easily works.

Due to this reason robotization easily adopted by industry but human workers are starting to lose their jobs.

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