

AUTOMATION AND ROBOTICS - GOOD OR EVIL?

First we need to know what automation is and why it is needed.

Automation is a natural process in the development of social production

In-house automation is a complex subject in its own right. Global competition is pushing it forward. Automation is the process of developing machine production, in which the control and monitoring functions previously carried out by man are transferred to machines and automatic devices.

The objectives of automation are:

- 1) to increase productivity and optimise equipment utilisation,
- 2) improving product quality through close observation of technological processes
- 3) ensuring of safety and improvement of working conditions
- 4) increase of material utilization factor
- 5) Reducing labour requirements and systematically increasing profits

These tasks require modern hardware and software, as well as highly skilled personnel.

The first thing that comes to mind is that automation of production is great, but is it?

On the one hand, it speeds up production several times over, but it crowds out human labour. It is worth remembering that in order to create the same robot you need several factories, thousands of employees, such as engineers, designers, programmers, assemblers and many other professions are needed here. And from the company's point of view, it is more profitable to invest a few thousand dollars and get an acceleration in production, as well as improvements in product quality. As a rule, humans make a lot of mistakes as it is inherent in us.

We use automation in our daily lives, for instance we type text on PC, laptop or phone, not by hand as our elder generation did.

A robot hoover also makes life easier, so we don't have to broom our way through the house or shovel dust by hand, and we don't have to move the sofa again to pick up the trash.

Robots everywhere?

But there are some obstacles to making such a rosy prospect a reality. While the US and Europe should benefit from such trends, China, where the population is ageing and wages are rising, is also investing heavily in robotics. China has only 30 robots per 10,000 workers, South Korea has 437, Japan 323, Germany 282 and the US 152, according to the International Federation of Robotics. It predicts, however, that as early as next year the total number of industrial robots in China will be higher than in North America. IHS Technology expects sales of robots in China to increase from 55,000 in 2014 to 270,000 in 2021.

The main use of robots.

Robots are typically used in the production of machinery, food, and much more rarely clothing.

Putting together a computer or phone processor is impossible because it is important to place it down to the nanometre, which is virtually impossible for a human to do. In the near future, robots will find their application in the military, medicine and even space exploration.

The most striking example of manufacturing automation is TeslaX.

The factory is located on a 5 million square foot area (464500 m²) - there are 3000 people and 160 robots working at the factory and the level of automation is constantly increasing - robots are installing batteries, the engine itself, the car interior, all the cables. All this makes it possible to produce around 400 cars a week. Just think about that figure of 400 cars in 7 days, how many of those eco cars could they make a year with 500 robots? Sounds good, yes it would take away a few hundred people's jobs, but it would also create new ones.

In conclusion, automation and robotics are the future, we will get more quality products, simplification of everyday life and more free time. Also, robots do not need to be paid for their work, so the price should go down, which is a good point.