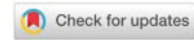


# ROBOTIZATION IN FUNCTION OF THE HUMANIZATION OF LABOR

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**Abstract:** The labor is a guarantee of economic, social and biological security and reproduction of man. The rapid development of technology, and in this context, robotics, brings with itself new opportunities for a better life of man, but also new dangers. One of these dangers is a reduction of the number of the workplaces on which man's labor will be required. In production of goods and services people will be replaced by robots. People will become jobless. Left without a job they will be left to all the problems that poverty brings. Poverty is accompanied by fear for their existence. Fear is the negation of security and freedom.

Without security people will fight to ensure it. There will be a social disorder and conflict. In order to avoid it, the correct distribution of the products of human labor will be necessary. If robots produce everything people needed, every one could enjoy the luxury and abundance. The condition for this is the capital owners to take care of their workers to whom labor is the only capital they have, and by larger allocations of the added value to provide them a life worthy of man. They, by want or no, will be forced to act in such a way, because the unemployment and poverty that is her companion, will lead to a fall in demand for goods and services. It will cause decline of production, so the whole economic system will be compromised. This problem can not be solved through market mechanisms. It requires solidarity in distribution of goods and services that will be provided by robots.

Therefore, the social system must be changed or, in the beginning, at least social model. In addition to trade unions, numerous associations for the protection of the rights of the unemployed will be emerged. There will be a worsening political conflict between the ruling establishments and opposition. In the ranks of the opposition, the main role will have the left-wing parties and associations. The state, as an organization of citizens and the government, as their service, must assume the role of balancer between labor and capital. Control protection functions of the state will intensify. The state will increasingly become a service to citizens and less protector of the interests of capital. At the stage of complete robotics it will become in the true sense of the word, a state of citizens. The distribution of social goods will finally take place according to the principle of „everyone according to his abilities, to everyone according to his needs“. Degrading wage labor will disappear.

**Keywords:** labor, capital, robot, state, citizens

Field: Social Sciences

## INTRODUCTION

The last third of the past century was a time when at a historical stage of technology began intensive application of robots. Every adult of contemporary world, who has, at least, a basic education, has its own notion of what is a robot. This depiction, of course, depends on his general and technological education. For some people, the robot is a device to help a person who, instead of them, performs tasks that are dangerous, difficult, tiresome or simply boring. For others, the robot is a dangerous machine, which will eventually turn against man.

Subjective understanding of concepts related to robots and robotics for nearly three decades prevents objective, scientific debate on this area. Therefore, the terminology for the robotics has become a subject of international standardization. The result is the first standard on robot of the International Organization for Standardization, ISO 8373, adopted in 1994. This version of the standard, in 2012, was replaced by a new one that takes into account all significant changes that have occurred over the past twenty years. According to the standard ISO 8373: 2012, robot is a mechanism whose movements are at least programmable in two axes and which has, at least, partial autonomy in carrying out tasks within the intended operating environment. Under the autonomy involves the ability to execute tasks based on the information from the sensors and knowledge about the current state, without human intervention.

According to the purpose, robots are divided into industrial and service robots. Industrial robots are defined by Standard, using the notion of the manipulator - a machine that consists of a plurality of segments which move relative to each other rotationally or translationally, with the aim of catching and / or moving objects. Industrial robot is automated, multifunctional manipulator programmable in three or more axes, intended for use in industry. It can be fixed on the base, or movable.

Service robots perform tasks useful for men who are not related to the industry. Self-service robot

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is designed for carrying out service work, usually for one person. Professional service robot carries out commercial tasks, usually for many people (Morena.2015, Gasumova, Porter, 2018). In addition to these, there are medical robots, military robots, robots for entertainment and the like (Nikolic, 2015),

The first robot is industrial robot. It appeared on a historical scene in 1962 in factories of powerful Ford automobile industry. It was designed to extract hot parts in the production of castings. Since then, on the technology scene are paraded three generations of robots.

To the first generation of robots belong those that can repeat movements. They are used in factories for works, such as welding, pressing, drawing, castings etc.

The second generation comprises robots that are able to manage in unpredictable situations in the workplace (adaptive robots). Therefore they are used for works on the conveyor belt, assembly works, painting and the like.

In the US there are already fully automated factories for the production of the television sets. In these factories trucks deliver cassettes with parts and sets, robots take cassettes and snakes them on conveyor belt and in the trucks is already loaded ready TV sets. In the halls there are no people; lighting, heating and ventilation are disabled as unnecessary. Once in two to three weeks, the cycle stops, turns on the light and ventilation for mechanics who check the robots.

Finally, on the third generation belong the so-called intelligent robots. They apply sensors and artificial intelligence. They are equipped with modern computers and programs. They recognize their surroundings and learn from their mistakes, independently and intelligently change the mode of work to adjust and improve performance.

Modern robotic technology is able to produce's intelligent robots that have the same sensory abilities as a man, and that, based on previous firmware, form own models of behavior and actions in accordance with the wishes and needs of the people they serve. They even are designed to look like people – humanoids, or man (android) or women (gineid) (Gasumova, Porter, 2018).

These robots will perform duties as men. So, next years is expected selling robot, chambermaid, robot waiters, bartenders, nurses, nursing assistants, secretaries and many other (Rosunnara, 2020).

The extensive use of robots indicates the arrival of robotic era in which intelligent machines created by man will perform a huge number of activities in the service of humanity. This will cause changes in social relations that will every day become more and more numerous. Changes in social relations will be accompanied by turbulence in society. This will necessitate the intervention of political science, organizational sciences and legal sciences. Legal science in the field of civil law, criminal law, employment law and social law, should propose appropriate normative and legal solutions to the numerous problems of social regulation that will impose the use of robots in everyday life. These are primarily problems of liability for damages caused by the robots, then the problems of criminal liability, labor relations problems in robotic production and services, as well as problems of social care for people who will lose their jobs because the robotisation (Risteski, 2003).

## **WORKERS AND ROBOTS - WORKERS**

It is difficult, even ethically unacceptable, making parallel between the workers and the robots workers. The worker is a lived man of "flesh and blood". Man is created by Mother Nature. He belongs to the animal world, the class of mammals. He is the most developed animal of this world and as that; he constitutes a particular type of animal - homo sapiens.

Robot is a machine, of course, a very complex, very complicated, computerized machine, created by man. It is more or less tentatively, intelligent machine. But the machine can be intelligent in itself. It is so intelligent how it is made by her creator - man, or specifically told, by its programmer, a computer engineer or roboticist. Its intelligence is conveyed. It is a part of intelligence of the man who created it. (Risteski, 2003)

The work is an action can be performed by the people and robots as their product. Therefore, when we compare human and robot, in fact we compare their work and their position in the work as an action.

A man, who works, so man worker, works for a salary. He, concluded a contract of employment with the employer on the basis of positive legislation: the law and collective agreement. Robot is bought by its owner - the employer for a certain amount of money that is paid once or on credit.

The worker sells his labor to the employer: physical, intellectual, or both together, for a monthly salary. Robot does. He does not receive a salary, because he is a property of the employer. If an employee works overtime or during national holidays, he receives an increased salary. Robot works overtime, on Sundays, during national holidays, does not require an increase in salary.

Favorable working conditions should be created for the worker: workplace lighting, heating and ventilation of the work premises. The robot does not need it.

The employer has to provide social insurance for worker. He has to pay certain amount of money monthly, in funds for health insurance, pension and disability insurance, for robot does not have to do that.

An employee has a right to a daily, weekly and annual rest and holidays. For the robot as a machine, it is not necessary.

Workers often require time off to carry out urgent private affairs. Robots do not have private affairs.

Worker during the work has physiological needs for which the employer must provide him specially designed rooms. Robot has no such needs.

The worker may be ill, and he has the right to treat the sick. The robot may malfunction. Workers are treated by doctors in health institutions, robots are repaired by mechanics or software engineer, mostly on the spot.

Women workers give birth to children and go on maternity leave. Robots do not give birth to children.

An employee may work well or less well, faster or slower, accurate or less accurate. Robot works by the way on which it is programmed by the programmer, and he programmed it as it is necessary for its owner.

An employee may be disciplined or less disciplined. Robot is always disciplined and punctual.

A worker in the workplace can be tired or rested, in good or bad mood, motivated to work or poorly motivated, depressed or full of joie de vivre. The robot, in a figurative sense, is always relaxed, cheerful, motivated and never falls into depression.

The worker, if he is dissatisfied with the working conditions and wages, can leave the job. Robot cannot.

The worker has the right to strike and he strikes. Robots do not go on strike.

Worker is protected by trade unions. The employers are feared by the trade unions in a democratic society. Robots are not organized in trade unions.

All in all, the work of workers is far more expensive than the work of robots. Employers are greedy. They love to save money. In doing so, they do not care for the workers. This creates problems. They are small today. In terms of the high degree of robotization they will be large, even huge.

## **ROBOTISATION AND PROBLEMS OF WORKERS**

Robots - workers with their large number are competition of men workers. Cheap labor of robots with all the advantages they have, in relation to human workers, in conditions of liberal capitalism, leads to replacement workers by robots. The worker on whose workplace the robot came remains out of work, on the street. If he fails to get it, after that, will be left to the mercy of fate (Marinkovic and oth, 2014).

According to research by consulting firm Prajswotherhaus Cooper (PwC), robotics and artificial intelligence by 2030 could jeopardize a third of jobs in the United Kingdom. Research shows that the most vulnerable are the jobs in the production and services. According to the survey 30% of existing workplaces in the UK are in a potentially high-risk group, compared to 38% in the United States, 35% in Germany and 21% in Japan.

According to the research, most at risk are exposed the workplaces of employees in the sectors of transport and storage (56%), production (46%), wholesale and retail trade (44%), in administrative or ancillary services (37%), in finance and insurance (32%) and in construction (24%). At least threatened are workplaces of employees in education (only 9%). Ivan Houksvort, chief economist in that consulting firm, said for BBC that the most at risk are the workplaces in carrying out routine tasks, because they are the easiest to be programmed ([www.nezavisne.com](http://www.nezavisne.com)).

The workplaces that undergo less routine tasks, therefore tasks that need thinking, situation assessment and decision for action, such as jobs in health and education, the police and so on are the least at risk.

The study states very disturbing information according to which, over the next 15 years, in the UK, about ten million workers could lose their jobs.

Known expert in computer technology Moshe Vardi, at Rice University in Texas, said that until the 2045 year, there is a real danger that robots can work off most of the jobs that are now worked by people. If his vision will be realized, it's not far the day when robots will replace people in the majority of jobs in the production and service industries in the world. If robots replace humans, people will lose their jobs.

The only safe future have the people who work on hardware and software of robots, as well as a small number of selected who would be able to control operations in production plants and maintenance

work in rooms and installations in them that cannot be performed by robots without human intervention.

As far as the experts for hardware, software and in particular business, there is no doubt that the need for their involvement will grow in direct proportion with the development of computerization and robotization of production and services. Only they will be privileged, only they can count on a bright future in the era of maximum robotisation.

Work, then, sells labor force to the employer, is the only source of livelihood of hackney workers. Life should be maintained. In order to maintain it in terms of unemployment it should fight. Homo sapiens is also zoon politikon, and then a social being, as Aristotle said. Prudent people will be organized. They will react organized against adversity of unemployment.

At their disposal are the trade unions. Organized in trade unions they will oppose employers. Employers will oppose them using the mechanisms of the liberal state. Greed will prevent them to think and act solidary.

"Greed that is what it should be feared. How certain jobs will become automated, so will the inequality will become more expressed, because the rich owners of the robots will not want to share their profits. If the robots will produce all what people need, what the world will look like, will depend on how these products will be distributed. Each person could enjoy the luxuries if the goods would be fairly shared among people. Contrary the majority of people could end up in severe poverty if the owners of robots fail to lobby for themselves.

Given such trends, it seems that we are going in this other direction that technology will only further widen the economic gap, "says the famous American theoretical physicist Stephen Hawking ([www.zimo.dnevnik.hr](http://www.zimo.dnevnik.hr)).

In addition to trade unions, hackney workers will associate in political parties or will incline to those parties that will promise them employment and social security.

In the modern world strengthens the role and importance of the so-called citizens' associations or nongovernmental organizations (NGOs). They are organized into interest-base, not political, although the organization on political grounds, at the same time, is an interest organization. In the citizens' associations the interest is immediate, visible. In political parties it is not a case. Interest of organization in them is hidden by policy curtain.

Marx and Marxism again are on price. Ingenious prediction of great scientist and fighter for workers' rights is slowly coming true. On the political scene will strengthen the role of leftist parties and civic associations. The conflicts between labor and capital will sharpen.

In addition to reasonable people, in society there are those irrational, less socialized, bad mannered and without moral scruples. They will return to crime. Expansion of crime is the logical consequence of the situation in a society where there are many people who do not need anyone, and who see no prospects. Life tends to take place. Life support will force people who were expelled from the labor market to take back by force that they can earn by honest work. There will be expanding band of violent crime, thefts, banditries, and robberies etc.

The society shall be shaken. Shaken society will shake difficultly the foundations of liberal capitalism. The state, as an organization of citizens and their service, will have to change, to reorganize itself, in order to protect citizens, both poor and rich. It will have to intervene in society in order to regulate the situation.

In most countries in the world, state leadership and political parties have not yet seriously grapple with the problems posed by computerization and robotization of production and services (Zoglev, 1997). If appropriate measures would not be taken on time, it will soon appear very serious problems by technical redundancies due to computerization and robotization of production, even in less developed countries, such as the Balkan countries.

## **PROTECTION OF WORKERS IN THE CONDITIONS OF EXPANSION OF ROBOTISATION**

Protecting workers in conditions of expansion of robotization in production and service sectors is a very complex issue. The robotization is a necessity of the modern world, something that cannot be avoided. Therefore, humanity cannot be protected from it. It will affect the state of social relations in all spheres of social life. Social relations must change and adapt to new productive forces. Robots in the future will be carrying element of the productive forces of society. The productive forces change. Production relations also change. But changes in production relations still lag behind the changes in the productive forces. This is because the productive forces in fact impose changes in production relations.

Labor relations are an integral part or element of the system of production relations in society. They

are most directly related to the productive forces and production. Therefore, changes in the productive forces, the most immediate impact on labor relations. So, robotics will first hit the labor relations. Because of that, first of all it should be taken measures to protect them. Measures should be taken by a state as an organization of citizens.

Measures to be taken by the state are related to the time of the employee, to the change in the quality of the workforce and the social measures for the protection of workers for whom cannot provide jobs.

Working time of workers can be shortened. Instead of the current eight-hour normal working hours, it could be brought in a six-hour, and then in a four-hour working time. This will allow a greater number of jobs in production and services. Where work is organized in shifts, instead of the current three shifts can be four, and after that six shifts.

Regarding the quality of the workforce and the structure of employees according to professional qualifications, the state should promptly take appropriate actions for the planning and provision of manpower to meet the needs of society, of course, depending on the level of robotization of production and service. If these activities are not planned, timely, systematic, carefully and precisely can be displayed on the serious problems associated with technological redundant of workforce. These problems can be avoided to a large extent by timely and thorough planning of appropriate measures for professional training, retraining and additional education those workers that will be at the impact of robotization (Valentini, 2023).

As for the millions of workers whose jobs no one will have a need, each state should develop programs to which these people need to be retrained to work in non-productive spheres in services or works in the sphere of protection and charitable activities.

On the base of all programs and strategies to combat unemployment and problems that will occur with plenty of free time that will have people, especially young people, there are numerous educational and empowering programs, such as an opportunities are available to the state and that it should prepare (Zoglev,1997).

For their implementation, the state needs to allocate increasing funds for organized activities in which would be included all the people who will lose their jobs as redundant due to the development of production processes by robots introducing.

The funds can be secured by introducing a "very progressive tax" (Marx). In addition to traditional tax, present the idea of introducing taxes on robots. One of the proponents of this idea is the owner of Microsoft, Bill Gates ([www.zimo.dnevnik.hr](http://www.zimo.dnevnik.hr)). He believes that states should consider about taxing companies that use the robot, i.e. about so-called robotic tax that would temporarily slowed down the expansion of automation, and the money from this tax would be used to fund other forms of employment. He suggests the state would use robotic tax, for the employment of people who care for the elderly and for children with special needs, education for children in schools and the like. Older man would get a care they deserve, the children would receive better education, and would open up numerous jobs for people that will get demission because the "robot revolution."

Introduction of the robotics tax is one of the topics being considered in the EU. With this would be helped the people who have lost their jobs because of the robotization, and with these taxes would be paid training for other jobs, but the European Parliament has rejected a proposal on this tax.

According to experts: sociologists, lawyers, political scientists and other, modern state works very little in this area, so that, the things about robotization are still largely left to corporations.

Thanks to globalization and technological progress, the world and way of life is changing rapidly. Earlier people were adapted technology to their needs. In the future they will have to adapt themselves to the technology. The greatest technological achievements that will further affect the changes of people's lives are yet to come. Many people are justifiably afraid that this change to the majority of them will be negative (because robots will be cheaper workforce that will 'steal' their jobs) and will benefit only a small number of owners of capital. These changes primarily related to artificial intelligence and robots. Scientific fantasy will soon become scientific reality. Technology what we see today in the movies, will become our everyday life.

People, especially the states this very day must begin to prepare for such a future with "readiness for change and learning new skills." States should provide more flexible training and education to help people, they be able to adapt to new conditions and requirements of the market. They have not shown any leadership related to the development of artificial intelligence and adaptation to the changes that are coming. Although some of the largest technology companies like Amazon, Microsoft, Face book and IBM have launched a partnership to artificial intelligence and robotization in order to inform the public about the progress, positive, and potential negative consequences related to robotization, states have not adequately responded. They should have a major role and responsibility when it is in question the

robotization and artificial intelligence. It cannot and must not advance technology that will change the world, to be left only to large corporations.

Social confrontations between employers, workers, service users and the state can be resolved through dialogue and cooperation. Such dialogues will allow as many as possible to use the advantage and the benefits of robotization, so that would not be to the detriment of anyone, but for the benefit of everyone. Such dialogue can be achieved in conditions of a developed democracy, humanism, social justice and solidarity. In accordance with these principles, the State should provide ongoing support to the unemployed, so it would have the least possible adverse effects on them, by the robotization in terms of high productivity that it will bring. The aims of this assistance should be keeping the welfare of progress, on the one hand, and on the other hand, for people to live without work with a style and standard that would be acceptable for them and for society.

## INSTEAD OF CONCLUSION

Robotized society is a society of the future. In it will the biggest part of the works will be performed by robots. They can perform all jobs. Robot is a machine, the deed of man's hands and of the human brain. If it is created by man, the man must keep it in life. He, the man must control his work and behavior. Therefore, the robotic society will require armies of hardware and software engineers to perform all jobs for robot maintenance.

As a machine robot can have sensory abilities, but not emotional. Such capabilities have people. Therefore, in all the work that is in addition to rational and emotional intelligence needed to be engaged people. Ganooids robots can take care of the children, give them food when they cry or when they invite them, or even wear them, but they will not do it with gentleness and care as do mothers. Robot can never attain the sweetness of mother's voice full of emotion and love. Robots can teach children in schools, give lectures at universities, but never achieve the skill of attracting attention; fluctuations voice, emotional closeness and communication skills as it do conscientious, eloquent teachers. Robots will unload, carry and transport things, but no robot will come to exhausted grandma to help her carry the bag to the elevator or on the fifth floor of the building, unless it has been programmed. Robot will not come to the exhausted or the injured man on the street to help him. He will not rewind the injured man in a car accident; it will not be load him into the car and take him to the nearest health facility, because there is no compassion and cannot empathize as people.

Robots can design a building, can compose music, can paint, sculpt, but they will never do what it can to make a sophisticated human soul, with refined aesthetic feelings.

Robots can be programmed to perform theater performances - drama, opera. They will never be able to do it so as it will be done by man. Robots can write poetry, it can recite, but it will not do it with fine oscillations of spirit as man it does.

As far as the arts, in every human work has a bit of art. Thus, a good teacher is a bit of an actor, a good chambermaid is esthetician, a good cook, painter, carpenter, too. They are good because they have aesthetic senses. Robot does not have it.

As for the moral feelings, a man has them, not a robot. The man has a sense of justice, honor, responsibility, remorse, pity, compassion, love, etc. Robot lacks. Therefore, the robots cannot be managers; judges cannot decide on administrative matters concerning the rights of citizens, cannot be teachers and so on. They can, if they are programmed to do, to write an acts, verdicts, decisions, but they cannot explain them so beautifully, with a sense of justice, as can the man with the emotional intelligence that robot does not have, nor he will ever have it.

Wherever, in addition of rational intelligence needed emotional, the people will be necessary, not robots. A small is a number of quality human work and tasks for which the creation and performance an emotional intelligence is not required. No human work where it is not needed, at least a small degree of sense of responsibility, of course, if it wants to do well. There is little number of jobs for whose execution is not required minimum degree of aesthetic sense.

A large number of jobs ask for deeper thinking and predicting the future. Their implementation needs rational intelligence of deeply reflective type that robots will not have. Robots cannot manage enterprises, institutions, command military units. They cannot be top neurosurgeons, cardiac surgeons, skilled, kind and compassionate nurses. They cannot be policemen, firemen, guards, lifeguards, etc. No matter how sophisticated and intelligent it is, robot is machine made by man and it cannot replace him everywhere. The Robot is programmed. The man does not. Robots are created and programmed by people. People are created by Mother Nature.

Man creator of robots will never make something perfect and better than what Mother Nature has done, because he is the creation of nature. By perfecting robots, the man improves himself. Robot is a matter deflected from nature that man created and perfected. When it comes to the relationship between man and matter, created can never be better than creator, perfected never be better than perfecter. Another thing is the relationship of man between man. People as parents, educating and teaching children, in many cases make children better than them. To them it is all an aim. Many of our students surpass us professors by their achievements. But the robot is not human. The robot is enormously improved materials - machine that the man is created and perfected to put it in his service. It serves him and will serve him, but not everywhere and for everyone. It will be work for people in the era of complete robotisation, of course, if the society in the context of the state as citizens' organizations will be adapted to new circumstances and adequately organized. It will not be just for uneducated and less educated people who accept the manual and simple administrative tasks, will not be able to perform other. So in the era of complete robotisation, there will be jobs for educated people with a developed rational and emotional intelligence. An educated man with a developed emotional intelligence enjoys the work. He is an artist in it. Art bears pleasure.

Uneducated and less educated people in the era of complete robotisation will be replaced by robots. They will be a concern of the state. It will have ensured them a dignified life without working. In order to provide it to them, it will have to develop mechanisms of social legislation and services that will execute this legislation. Rough, stultifying, degrading wage labor will disappear. If they want to work, it will be jobs for these people. Cleaning, maintenance of living and working environment, numerous ad hoc or unprogrammed works, will be a field of their working engagement. If it will have no work for them, they will be entertained. They can entertain other people. The entertainment is also work.

Enormously developed productive forces will produce huge amounts of various consumer goods and many services will be performed. Due to the low prices, goods and services will be accessible to all of people. In the robotized society, people will work according to their possibilities, and consume according to their needs.

The state will be, in the true sense of the word, an organization of citizens, rather than an instrument of power in the hands of the ruling elites. Created by citizens and for citizens it will be a service which will serve them and organize their work for the benefit of the whole society.

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