

«Scientific and technological process»

performed:

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Scientific and technological progress - a forward movement of science and technology, an evolutionary development of all elements of the productive forces of social production based on extensive knowledge and mastery of external forces of nature, this is an objective, permanent pattern of development of material production, which results in a consistent improvement of technology, technology and production, improve its efficiency.



Chinese rocket in antiquity



Modern rocket at the Baikonur cosmodrome

However, it is known that 60% - 70% of all research in the production never implemented. That research process covers a much greater expanse of knowledge than the part that is going scientific and technical progress in practice.

The evolution of social production, its continuous improvement are fundamental laws of economic life of mankind. It is based on the progress of science and technology. This process is often called economic progress. But this is not quite correct view.

Economic progress - is a complex and multifaceted phenomenon, assessment of which involves the use of different criteria and metrics by which to assess the state of development of the productive forces and production relations, and ultimately - social mode of production in general



One of these criteria is the level of economic progress of science and technology. It is a concentrated expression of only organizational and economic relations that are inherent in all epochs of human society.

Scientific and technological progress for millennia of human civilization was a complex and contradictory path. This was due to the fact that it is technological progress that took place in the early stages of social development, carried out in isolation from scientific progress until the end of XVIII - early XIX century. It was only during the industrial revolution began a rapid convergence of scientific and technological progress and there was a coherent scientific and technological progress (NTPR) since then began the process of converting science to direct productive force, which lasted nearly a half century and ended in the mid-50 th century. deployment of scientific and technological revolution.



Thus, the technological progress made in two forms: evolutionary and revolutionary. Evolutionary form NTP occurs when the equipment and technology used in production, improved on the basis of the known scientific knowledge. An example of this form of NTP is the development and improvement of the steam, electricity or atomic etc.

Revolutionary form of NTP indicates moving equipment and technologies that are based on a fundamentally new scientific ideas. An example of this form is the transition from hand tools to machine, replacement of steam power to electric or nuclear power, the use of laser and other advanced technologies.



The technological revolution is a qualitative leap in the development of the productive forces of society based on radical changes in scientific knowledge. Such revolutions in science, engineering and manufacturing take place regularly. The last of them started in the mid 50-ies of XX century., When it created the first computer, when people began to use the energy of the atomic nucleus and engage in genetic engineering.

STC has developed all the elements of productive forces. For example changes in the items of work are reflected in the use of new synthetic materials with special properties (plastics, semiconductors, artificial diamonds, etc.). Convert the means of labor associated with the emergence of automated and computer equipment, which significantly expands the production capacity of industrial personnel, significantly increases the performance of their work, increases profitability. STC also causes changes in the nature of work, changing the form of the relationship of participants, improving the exchange of results of work. The technological revolution has opened up new ways and methods of managing highly diversified technological systems (telecommunication networks, high-speed control and information processing, etc.).

These and other processes require significant changes in the conditions of life and labor rights, the development of more complex trades, which is only possible for people with sufficient education, professional (economic) and cultural level. Factors material production

Factors of production are the material productive forces, which provide natural transformation of substances according to people's needs, create material and spiritual benefits and determine the growth of labor productivity

