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**21<sup>ST</sup> CENTURY VALUE – BASED EDUCATION’S  
IMPERATIVES WITHIN ROBOTIC TECHNOLOGIES**

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**Abstract:**

The present paper highlights some of the desiderata expressed at an international level, namely the scientific and technologic potential’s developing, perceiving the technological innovation, not only by means of the economic benefit, but also in terms of the implementing context, the existing reports between the technologic advance and the power geography perspective, correcting, by means of an educational process, the vicious behavior, which tends to change the technological achievements into abuse instruments, meant to force the weak ones to obey the powerful force.

*Key words: imperatives, value-based education, robotization, technological innovation*

## **1. Value-based Education in the Field of Robotic Technologies**

An ever changing\on the move world, with citizens that seem to estrange from the values of the mind and soul, needs support pillars. One of these is represented by education. Because without its presence one can not speak about a real science-society dialogue, nor about the formation of innovative capacities constructively involved in social becoming.

We find the mark of science everywhere. It is argument and foundation, connection and brace; without it nothing is possible and nothing can last. By means of the research and related achievements, it constitutes - as noted by scientist V. Bush in a report to U.S. President Roosevelt - a good guarantor of national security and economic development. To the foregoing considerations present time is added: the geography of power is determined by technological progress, the quality and competitiveness of the human resource; the evolution of society representing, most of the time, the element influencing research directions as well as scientific progress.

From this standpoint we bring into focus the existing relation between the humanistic imperatives and the social role of technology and argue that technological creation is not the one that should generate discussion, but the way in which it is used.

As technological reality is a component of the social heredity patrimony we need to focus our approaches towards scientific literacy, towards enhancing creative and

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innovating availabilities, but also towards becoming aware that man alone is responsible for the road covered by technology in general and humanity in particular: be it towards development or towards self-destruction.

This is where comes into place the teacher's role as a catalyst towards consciousness and creative forces in the direction of beneficial interventions within society, as a shaper of personalities fit for the requirements and demands of the contemporary world, that can, know how to and want to build together.

The 21st century soldier must be a man of his time "armed with knowledge", familiar with the technological potential of the specific military environment, but also with the correct and moral use of it, a holder of skills and abilities validated into practice, able to integrate the scientific research activity products in the realm of education and training.

The increased interest that Mechatronics enjoys in the contemporary military environment supports the idea that there can be no real power of the state without military capability and capacity. But only when they are used for ensuring stability, order, security, peace. Because, as we all know, true military geniuses are only peace makers.

It is true that the military capabilities available to a state are the mouthpiece of its political, economic, geostrategic interests. And the connections established between the military component and technological potential is able to generate the lights and the shadows of this century.

Mechatronics, the genuine MECA of scientific and technological achievements in Mechanics, Electronics, Computer Science and Automatics (a fact represented by means of fig. 1) is called to generate a balance between a thorough understanding of technology and the ability to develop\offer solutions that is to respond quickly and beneficially to social demands.

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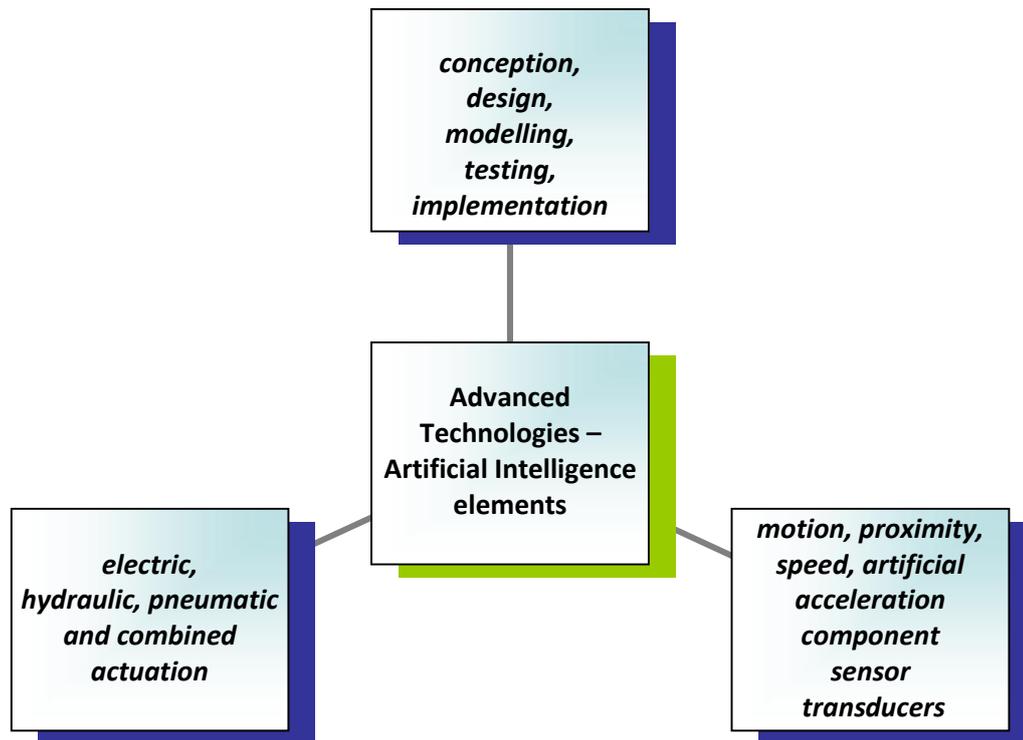


Fig. 1 Structural design of advanced technologies

Robots are used as artificial soldiers because "*they do not get tired, close their eyes, hide under trees when it rains, they do not talk to their friends and know no fear*" (MAJ Kenneth Rose, U.S. Army Doctrine and Training commander). We resort to them because they are capable of rapid reactions, calm ones and without any emotional involvement.

They should be used to minimize\eliminate harmful influences exerted on the human by a series of environments or working conditions: light-dark; cold-hot; polluted atmosphere or lacking comfort, hard to access environments (radioactive, underwater, space, etc.), completion of the technological routes necessary for the realization of products in the manufacturing cycle (abrasive, grinding, spot welding, polishing, etc.).

Among the qualities that recommend them for APC tire assembly, unexploded ammunitions detection and neutralization, ensuring strategic objectives protection, etc., we can mention: inexhaustible physical strength, high dexterity, discipline, flexibility, economy, reliability, high accuracy.

They are not substitutes for humans, but they second them, standing as an example to those who enjoy a comfortable life (robots are not familiar with the concept of truancy).

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## **2. Conclusion**

The success of the *knowledge triangle* (science, research, innovation) functioning consists of improving cooperation between the industrial community, research and education. And the existence of a **Research Center - Advanced Logistics Technologies** within "Nicolae Balcescu" Land Forces Academy from Sibiu (due to research contract no. 59\2010) comes to show not only that the military academic education in Sibiu is able to keep pace with the development of the knowledge society, but that it can also assist education through practice, offering a meaningful reading grid specific to the 21<sup>st</sup> century educational paradigm.

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