



INNOVATION – END STATE OF HIGH-PERFORMANCE SCIENTIFIC RESEARCH IN A MILITARY UNIVERSITY –

Lecturer Brândușa-Oana NICULESCU, PhD

Lecturer Isabela-Anda DRAGOMIR, PhD

“Nicolae Bălcescu” Land Forces Academy, Sibiu

With the transition to military higher education, scientific research and innovation have become necessary prerequisites for building a successful academic environment. Amateurism has considerably diminished as a result of the training and improvement of the skills needed in this domain, whose value is increasingly recognised as a galvanising factor in achieving specific quality indicators for a modern military university. Against this background, we can argue that scientific research, scientific innovation, and military higher education intertwine in a much more active way than in previous years, with the ultimate aim of enhancing military science and practice. The emergence of new preoccupations for scientific research and innovation, as pillars supporting a modern military university, arise not only from the imperative of acknowledging this need, but also as a consequence of the identification of scientific knowledge among the solutions needed to provide the conditions specific to a future military university, able to respond to and master the wide array of challenges generated by the unknown in future military actions. The proposed approach draws attention to aspects related to the importance of knowledge, understanding, explanation, and argumentation of conceptual, structural, actional, and managerial clarifications of scientific research, scientific progress and innovation, as fundamentals of excellence in a modern military university. Thus, the postmodern military university will acquire the capacity to fulfil its specific missions only in an optimal framework, adequate for recognising scientific research and innovation as imperatives for the dynamics of change in society and in the military environment.

Keywords: scientific research; innovation; higher education; military structures; national security;



INTRODUCTION

The modern military university, or more precisely the postmodern one, is characterised by new competencies and standards springing from its status as a higher education institution that capitalises on the most important accumulations of science and technology and, especially, that creates advanced military knowledge and technologies, by responsibly using scientific research and innovation to address the needs of national and international defence and security.

Nowadays, we witness increasingly obvious efforts made by the members of the university military communities in the direction of widening and deepening the essential landmarks of scientific research and innovation, but the same cannot be said about the existence of clear-cut approaches regarding university innovation, respectively the concept of innovative military university.

Scientific research and military academic innovation imply the excellence of the university's activity as a whole, not only as a beneficiary and producer of knowledge and technology, but also from the perspective of the epistemological, methodological and praxiological clarification of the respective fields and their specific management. It is, in fact, a reality that has been valid ever since the 19th century, when experimental practice developed in the direction of innovation in social life and invention of material products, even if the scientific theory for such areas had not yet been formulated.

In turn, later, after the Second World War and in the following decades of the last century, research and innovation in the field of military science and practice underwent significant changes in terms of conceptualisation, theorising and applicability to the needs of the military domain.

In this context, there is a need to clarify the specific aspects of innovative research and progress in the military higher education field, as an inseparable part of the scientific research and innovation process

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conducted by a university, with the aim of producing the scientific knowledge required in order to lead military structures and conduct military operations.

THE NEED FOR SCIENTIFIC RESEARCH AND INNOVATION IN THE FIRST DECADES OF THE 21ST CENTURY

As experienced in the year 2020 and at the beginning of this year, the world we live in is increasingly dynamic. This statement is nothing new, as change has been, in fact, a permanent companion of history. And, as experienced by each of us, today's world is a fast-paced reality.

The first twenty years of the beginning of the century and millennium clearly demonstrate that postmodern society faces various significant challenges, among which anticipating the importance of research, progress and innovation is becoming an increasingly current, complex and comprehensive academic practice.

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The beginning of the 21st century is characterised by unprecedented processes and transformations in the history of society, of its specific fields, as well as of each individual. These aspects have generated profound dysfunctions, materialised in the emergence or perpetuation of crises. An example is the year 2020, when the COVID-19 pandemic showed, among other things, that people and especially institutions with important socio-human responsibilities did not have the necessary training to stop the crisis, or at least to mitigate its consequences on human communities and at individual level. The fact that we were not prepared has a series of causes, among which a fundamental one relates to the way in which school, in general, and the university, in particular, has shaped human personalities able to anticipate the future and find solutions for its adequate management. For universities, the multiple challenges experienced by the postmodern society bring to the forefront the need to elaborate on the fundamentals of research, progress and development, as the only way to respond effectively to the noble and responsible mission the society has bestowed upon them.

Postmodernism brings along the change of paradigms and models of societal approach. Georges Balandier points out that current modernity *"is an adventure, an advance towards largely unknown social, cultural and scientific spaces, a progression in a time of rights,*

tensions, mutations. You have to learn to be an explorer of these times.” (1988, p. 124).

Following the same line of thought, we believe that the beginning of this century has strengthened the conviction of political, economic, social, military and scientific institutions, as well as of specialists in different professional fields of society that there is a need to change the construction paradigm and models of the future by increasing the use of research, progress, development and, ultimately, innovation.

The boom of the interest in research and innovation worldwide, in Europe and in some countries, organisations and universities, especially those at the top of the hierarchy of scientific and applied science performance, is materialised in supporting the development of studies, strategies, projects and programmes that highlight their remarkable possibilities.

There are obvious differences between the old state of the society that progressed and developed through knowledge and the new model of the society based on scientific progress and innovation. In the new model, the presence and action of innovative scientific research increase, in a spectacular way, the possibilities of addressing the needs of individual and the societal breakthrough, through an effort that can prove the ability to reconstruct knowledge, mentalities, skills and practices in a way specific to the achievement of postmodern innovation.

In turn, as it is the most important and reliable source and resource to implement the new requirements, scientific research is increasingly and convincingly committed to professional excellence, in the evaluation of which innovation becomes a representative indicator.

By redefining their status and role in order to meet new expectations, scientific research and innovation are reshaping, so as to become timely, useful and efficient. In this regard, for military universities, scientific research and innovation maintain the specific requirements of any higher education institution, to which are added some particularities in terms of objectives, scientific field, strategies and resources employed.

Therefore, the characteristics of the military field, the role and mission of the armed forces, at national and international level, the characteristics of equipment, assets and means of combat,



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the particularities of the operational environment, the physiognomy of military actions, the requirements of military theory and science, and the personality of the professional military are some elements that typify the military reality, to which scientific research and innovation must find the appropriate answers from the perspective of the military university.

Consequently, efficient scientific research and innovation, as specific dimensions of the military university activity, must be carried out and evaluated based on the university innovation and scientific research conception and strategy in general, but correctly and clearly identified and formulated at the level of the military university. Therefore, it is necessary that innovation and scientific research at the level of the military university should conduct in-depth analyses in order to penetrate the essence of military phenomena and processes, to discover their internal causes and dynamics, their internal laws, and their links of interdependence with other phenomena. All these will generate the development of the capacity to anticipate their directions of evolution, to identify and capitalise on solutions for optimising the military practice and enriching the patrimony of military science.

SCIENTIFIC PROGRESS AND INNOVATION IN MILITARY HIGHER EDUCATION – THEORETICAL APPROACHES

In Romanian, the concept “*a inova*” (“*to innovate*”) has been borrowed from the French language, and has its etymological origin in the Latin word “*novus*” which means “*new*”. The word “*inovare*” (“*innovation*”), whose meaning is “*to accomplish something new*” is also derived from the adjective “*novus*”. According to the online *Larousse Dictionary*, the word “*innover*” (“*to innovate*”) means “*to introduce a novelty*” (<https://www.larousse.fr/dictionnaires/francais/innover/43197>).

The complexity of the *innovation* concept has generated its evolution and approach from different scientific points of view, the presentation of its defining aspects and the notes characteristic of the theoretical fields from the perspective of which various definitions have been proposed. First of all, in his book *Capitalism, Socialism and Democracy* (1942), Joseph A. Schumpeter introduced a new concept, as he considered that the enterprise must mainly be innovative by reforming and revolutionising production, discovering new material

sources, by reorganising administration (Nagâț, 2001, p. 18), understanding that this is the action of producing *something else* or *different* (Plumb, Vișan, Botez, Florescu, Angheliescu, 2007, p. 31). The definition has the attributes of generality, which urges us to always do something *different*, to change things continuously, no matter how small the change.

In 1974, the British author Brian Twiss considered that innovation is the process by which an investment or an idea is translated into the economy (p. 64). Extending the scope, Dorothy A. Leonard and Walter C. Swap (2005, p. 76) think of innovation as the materialisation, combination and/or synthesis of knowledge into a new, relevant and valuable product, process or service. On the same epistemological coordinates, we find Željka Šporer (University of South Australia), who signals the existence of differences in the content of this concept from the perspective of sociological theory and economic theory (2004, p. 41). If sociologists define innovation as a new way of using knowledge or applying existing information to problems or situations different from those known before, economists establish that innovation is the transformation of existing knowledge and ideas into a new or better commercial product, with increased value for the customer.

A broader definition and a concrete proposal for a conceptual standard for *innovation* were proposed by the Organisation for Economic Cooperation and Development – OECD in 1991. In 1994, the OECD published the *Frascati Handbook*, which provides a similar definition. Scientific and technological innovation was seen as the transformation of an idea into a saleable, new or improved product, into an operational process in industry or commerce, or into a new social method (Băloi, Frăsineanu, 2001, p. 40).

Regarding the options of the Romanian specialists, we can consider that they also converge either towards the economic field, par excellence, or towards a boarder approach, with elements specific to the societal macro-environment. Usually, for the Romanian authors, *innovation* is an achievement consisting in the application of new ideas, products or technologies, or it is considered to be the process of transferring an idea or a new concept into the final stage of new products, processes, activities or services accepted on the market.



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“Innovation” is understood as a process aimed at producing and transforming ideas into practical processes and activities or new methods of research, respectively management of the human, social or natural environment.

Innovation is one of the concepts that has entered the area of theoretical concerns of specialists in various fields. J.B. Taylor is presented as the first author to use the term “innovation”, understood as a new way of doing things to meet a social need.

Furthermore, this term has a normative content stipulated in the Government Ordinance no. 57/2002, which specifies that the research-development activity includes fundamental research, applicative research, and technological development (OUG no. 57, 2002, art. 6) At the end of this normative act, *innovation is defined as an activity oriented towards the generation, assimilation and capitalisation of research and development results in the economic and social sphere.*

Several other authors directly target the content of *innovation* in the educational process, considering that it is a deliberate activity, which aims to introduce a novelty in a given context; furthermore, it has a pedagogical dimension, because it aims to substantially improve student training through a situation of interaction and interactivity (Béchar, 2001, p. 263).

Based on the given definitions, we appreciate that *innovation* is understood as a process aimed at producing and transforming ideas into practical processes and activities or new methods of research, respectively management of the human, social or natural environment.

In our opinion, we are witnessing the development of new variants or more complex models for the innovation process, which directs the effort towards a better knowledge and exploitation of what is specific to the content of innovation (Slătineanu, 2005, p. 29).

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In the context of the concerns of some international bodies and organisations and of some authors regarding definitions of innovation from the perspective of the general field of reference, a special place is occupied by the definition of social innovation. The agreed OECD definition is that *“social innovation represents new ideas [...] refers to the improvement of economic opportunities and quality of life and can refer to social welfare, working conditions, labour force, community development”* (Règimbald, 2007, p. 10).

For the research team on social innovation in enterprises and unions, (CRISIS – Centre de recherché sur les innovations sociales – a Canadian national body), social innovation means *“all new approaches, practices or interventions, along with all newly created products,*

all new services for the improvement of a situation or the solution of a social problem, which occur at the level of institutions, organisations, communities” (Bouchard, 1999, pp. 1-26).

Furthermore, the education system, as a system focused on innovation, has utilised many options for the clarification of this concept in and for this field. Considered as a benchmark for defining innovation in education, Allen M. Huberman states it is *“a measurable, deliberate, sustainable, and unlikely frequent improvement”* (1973, p. 7). The same author differentiates between innovations that introduce technical changes, innovation of a conceptual nature (new courses, new educational programmes, new teaching methods) and, respectively, those that introduce changes in interpersonal relationships (ib., pp. 20-21).

In the same area of concern, in an attempt to establish a definition much more correlated with the particularities of innovation in education, the *Council for Social Research and Activity on Technological and Social Innovation* from Canada suggests three dimensions of innovation, namely: *the curricular dimension*– innovation at the level of study programmes; *the pedagogical dimension* – innovation at the level of the educational process and *the organisational dimension* – innovation at the level of structure, roles and functions fulfilled by the persons involved in the education process (Rapport annuel, 2004/2005).

Analysing the issue of *innovation* in higher education, another author, J.P. Béchard (ib., p. 267) proposes a list of favourable or inhibitory factors that influence innovation, all depending on the context in which they function.

The localisation of *progress* and *innovation* from different perspectives has created misunderstandings of the possibilities to differentiate between them, because the boundaries that separate them are less visible and more difficult to detect. However, we can argue that the two concepts are synonymous within the same reality, even if in the Romanian language we utilise two different words (*“inovație”* and *“inovare”*), whose entry point in the language is generated by two different roots, namely English for the former and French for the latter.

In our opinion, *innovation* has in its intimacy the capacity and strength to change something, while *progress* brings the new



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“Progress” in military higher education can be defined as the idea, action or process, respectively the set of ideas, actions, processes and technical means of a deliberate nature, as bearers of novelty and originality, which ensure modification or transformation at managerial, curricular, structural and functional levels of the academic environment, through which academic excellence is obtained and maintained in order to sustainably increase the performance of military education and modernise the military university.

to the highest possible rank by making available something surprising, extremely novel, which completely transforms the reality known until that time. If *innovation* is much closer to improvement, *progress* can be defined as a process of transformation, for which the relevant originality and the absolute novelty of discovery are the essential attributes.

From these perspectives, we consider that it is necessary to delimit the concepts of *innovation* and *progress* in the military university, respectively the concepts of *innovative military university* and *progressive military university*. We postulate that *innovation* in military higher education is the idea, action or process, respectively the set of ideas, actions, processes and technical means of novelty that intentionally determine and ensure qualitative improvement or change in structural, curricular and managerial terms in order to improve performance in military education and in the activity of the military university.

Based on the same arguments presented above, we consider that *progress* in military higher education can be defined as the idea, action or process, respectively the set of ideas, actions, processes and technical means of a deliberate nature, as bearers of novelty and originality, which ensure modification or transformation at managerial, curricular, structural and functional levels of the academic environment, through which academic excellence is obtained and maintained in order to sustainably increase the performance of military education and modernise the military university.

When we discuss the definition of the *innovative* or *progressive* military university, we could summarise the approach by the fact that one meets the attributes of military innovation, while the other focuses on progress at the level of military higher education. However, developing the above aspects, we can say that if the innovative military university supports and promotes innovative policies and strategies that ensure the overall improvement of institutional performance, then the progressive military university obtains, maintains and promotes high performance policies and strategies specific to modern military university. Although constructed to delineate and explain the concepts of innovation and progress at military university level, the definitions can be extended to the entire military education system. For example,

if a proposal is made to change the content at the level of military higher education and this must be constantly taken into account, then it is necessary to change it at the level of the application schools or of the postgraduate courses.

Our intention and desire to clarify these concepts are in line with the evolution of the scientific epistemological approaches that aim not only to customise the specific terms of one science or another, but also to find the same meanings in the concepts with which they operate. We believe that presenting the opinions of specialists and institutions as well as our own point of view regarding the concepts of *innovation, progress, innovative military university or progressive military university* help strengthen the need to understand that a modern military university must develop a coherent conception of its own possibilities in order to meet the challenges posed by the place and role it needs to offer to scientific research, progress and innovation.

EDUCATION, SCIENTIFIC RESEARCH AND INNOVATION – THE SUCCESSFUL TRIAD FOR A MODERN MILITARY UNIVERSITY

On 21 November 1999, the Prime Minister of Italy, Giuseppe D’Alema, invited the presidents of Italy, the United States of America and Brazil, as well as the prime ministers of France, England and Germany (considered the most reformist heads of state) to Florence, for a meeting aimed to discuss developments towards the 21st century. It has been stated there that the major developments in the 21st century will be driven by two factors: *education* and *innovation*. The European Union’s efforts to designate 2009 as the “*European Year of Creativity and Innovation*” (Regional Centre Northern Transylvania, 2008) are part of the same initiative (<http://europedirect.nordvest.ro>).

In the context of understanding that only through research and innovation can knowledge be produced as a vital source of well-being and solving the new challenges of the knowledge-based society, European states have developed national systems and strategies and have increased their competitive international interactions. This is also the case of Romania, which, after the first *National Strategy for Research, Development and Innovation* (2007-2013), and in the context of the commitments assumed with reference to Europe 2020 Strategy,



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has based its *National Strategy in the field of research, technological development and innovation* for 2014-2020 (<http://www.cdi2020.ro>).

The establishment and achievement of these major goals place the modern university, through its objectives and mission, among the pillars able to ensure a favourable environment for education, scientific research and innovation, as an institution generating knowledge and training future academic graduates with innovative personalities. The modern university, as a catalyst for scientific research, will become the strong core of scientific creation through innovation and dissemination based on high-performance methods and technologies.

The immediate logical consequence is that even the modern military university can no longer stick to simplistic educational content, outdated teaching-learning-assessment strategies, mentalities trapped in the shell of minimal educational effort, based only on own experiences, empirical and unscientific procedures, often sterile speculation. It is necessary to discover the essential landmarks of the modern military university, representative for these first decades of the 21st century. In this regard, we appreciate that the modern or, more precisely, the postmodern military university can increasingly become one of the main factors generating military scientific knowledge, whose openness to scientific research and innovation represents its existential landmark. A first requirement for a modern military university is the correct identification and establishment of the essential milestones of theoretical approaches to research and innovation in the university, in general, in the military university, in particular, based on the views of renowned authors or academic institutions, as well as on the contents of strategies tailored to national military education, NATO, the European Union and other foreign armed forces.

Once the general theoretical and conceptual framework of military academic innovation has been deciphered and understood, we move on to assessing the factors that can enhance its own creative, innovative heritage, especially that specific to new knowledge, as the military university balances the indicators of high-performance innovation, specific to military higher education, with its scientific potential, in terms of human, financial, technical, structural and managerial resources.

Nonetheless, in order to develop and establish the appropriate strategy, the military university will make a careful analysis of the internal and external factors that greatly contribute to ensuring the characteristics and performance of a university open to scientific research and academic innovation.

Knowledge and permanent consideration of both internal and external factors will increase the likelihood of redefining and substantiating efficient management strategies in the military university, thus accelerating the implementation of the research-development-innovation process. Only thus will there be chances to enrol the military university among higher education institutions of excellence with national and international recognition in terms of research and innovation results.

That is why, in order to increase the success of the innovation process, it is important for the military university to achieve and promote a permanent and well-delimited transfer of responsibilities in the educational process, through the direct involvement of a variety of actors (national and international military and civilian universities, academic staff, representatives of military units and higher armed forces leadership structures, soldiers participating in theatres of operations etc.). The involvement of a wide range of different actors is beneficial, given that innovation involves the acquisition of new views, different perspectives on the same issues and dialogue to establish strategies for transforming the military higher education institution and increasing the capacity to consider new approaches in organising and conducting military actions.

Within the strategic innovative university management, the general projection of the strategy for implementing the specific requirements of scientific research and innovation is developed based on these well-diagnosed data. Thus, special attention will be paid to establishing, achieving and consolidating an innovative environment by developing a coherent system of criteria for assessing the creative, innovative capacity of the academic staff, scientific researchers and students. This system will have to be implemented equally in scientific research and in didactical activity.

We appreciate that the innovative scientific spirit is neither opposite nor foreign to the didactic spirit. In order for faculty members



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The knowledge of foreign languages plays an ever-increasing role in all the activities that can generate the necessary conditions to identify and achieve performance in innovation, at the level of military university, of the faculty and students alike. The opportunities offered by foreign languages create the possibility to open new avenues for knowledge, which becomes essential for education and academic scientific research, respectively for the promotion of partnerships with other international military and civilian universities.

and students to become true innovators, it is necessary that they should receive specialised training in the military university, based on a well-defined conception and in a motivating environment, typified by an innovative culture and mentality. Active participation in didactical activity and scientific research, by stimulating arguments and critical thinking, contributes to the development of creativity, scientific imagination, and the ability to discover and build the new and, consequently, ensure academic innovation. In the military educational process, it is necessary for students not only to be connected with the “known” but also to use their interaction strategies with the “unknown”. It is important that both the faculty and the cadets should understand the true value of taking charge of their own training and implicitly of their own destiny. In the absence of collaboration, cooperation and trust, of the will and presence of the permanent spirit of renewal, the military academic environment remains dependent on conservatism, without possibilities to benefit from the mobilising the energy that drives scientific innovation.

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The aspects presented here can be considered suggestions for the knowledge and management of some of the specific actions of innovation in the modern military university. However, there are still other questions to which the best answers must be sought and identified. For example, questions such as: *What factors may determine faculty members or students to know or apply the specific mechanisms of an innovative activity?* (Slătineanu, 2001, p. 3) *What are the conditions and factors that can contribute to the engagement of academic management in the innovation process? What are the qualities that promote the innovative spirit of students and faculty members?*

With regard to the answer to the latter question, it is very important to highlight the characteristics and criteria specific to the innovative competence of academia. They can be:

- *ease of identifying and solving problems;*
- *availability and risk-taking capacity, inevitable for any renewal;*
- *creative imagination and permanent optimism;*
- *ability to communicate with people;*
- *high-performance training and consolidated experience in a certain field;*
- *originality and novelty of ideas, solutions, behaviours;*
- *desire to achieve performance in the field;*
- *rich fantasy;*
- *ability to lead a group of people.*

As a consequence, these qualities are indispensable for the innovative individual – teacher or student, so that their activities may be successful. We must also take into account that the history of science shows us that some of the greatest discoveries were made by very young people (for example: Niels Bohr was under 25 when he discovered the structure of the atom; Einstein, too, when he published the first article on the theory of relativity; Bill Gates was a student when he imagined the new business model promoted by *Microsoft*, Larry Page and Sergey Brin were students when they created the new Internet search system, on which they founded the famous *Google* Company).

Therefore, the university professor is the one who becomes the initiator, coordinator and manager of the process meant to meet the three intrinsic components of the postmodern military university missions, respectively education, research and innovation.

Faculty members, students and research teams need to be encouraged to develop their ideas, to be creative, to have initiative, to be supported to try all directions of creative effort, while being given autonomy in expressing themselves. Academic management must lead the strategy of the modern military university for research and innovation, without dictating how each stage and operation should be carried out (Nica, Iftimescu, 2008, p. 66).

The optimal use of each and all innovative requirements can create and strengthen the innovative academic environment and thus the formation of an innovative culture capable of ensuring the efficiency



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Research and innovation depend on a clear strategy of the military university, on well-defined objectives, on competent management, on the establishment and functioning of groups, on cohesive and efficient interdisciplinary teams, on the existence of objective and motivating performance evaluation procedures, respectively on a competitive and collaborative climate.

needed for scientific research and innovation as essential dimensions of the modern military university. Therefore, in order for a military university to be identified and maintained as a modern university, it is necessary to occupy a position that allows it to compete in the field of scientific research and innovation, through a continuous search for change, for novelty, not simply for the sake of being innovative, but rather as an existential condition, as an institution for which research-development-innovation are the requirements of the normality of specific activities stemming from its academic status.

CONCLUSIONS

Innovation has become a specific and necessary component for the development of human society, with new distinct aspects and significant developments in the first decades of the 21st century.

The quantitative and qualitative accumulations made during its evolution show that the roots and factors contributing to innovation have been represented by people taken as isolated individuals or as members of groups and collectives with distinct responsibilities in this regard. On these coordinates, a specific nucleus has appeared and manifested itself – that of the organisation and development of scientific research and university innovation.

Therefore, society in general, every layer in its structure, the individual and the universe have been the fundamental landmarks from which significant questions arise regarding the place and role of the modern university, its mission and objectives. Considering this reality alone, the *modern military university* appears as a necessity and hope to efficiently manage the military academic educational phenomenon, the multidimensionality and the infinity of variables that it subsumes.

Today, every military university wishes to become a modern, high-performance military institution with a real and wide recognition in the field of education and academic research. Bound by the very important role it plays in society and in the field of the military education system, it must substantiate and create the necessary conditions for the functioning of the *education-research-innovation* paradigm.

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performance evaluation procedures, respectively on a competitive and collaborative climate.

We consider that the *Romanian military university* has continuously and increasingly managed to take new important steps in the field of *research-development-innovation*. Further visible and effective intervention is needed at the level of each military university, of the national military university system and of other factors outside it to ensure the necessary conditions for an innovative modern university open to addressing the requirements of military theory, science and practice.

Therefore, only if understood and supported, can scientific research and innovation become more productive, by creating an academic research environment and a research culture based and developed on innovation.

It is absolutely clear that we are facing new transformations that require the preparation of tomorrow's officers for a more distant future, in which the military profession will demand a new system of values, a different lifestyle, and different patterns of thinking, different behaviours and conducts. This change requires new forms of military academic education, roles and actions specific to the military university among which scientific research and innovation will be dominant factors, the only ones able to vitalise scientific creation and focus the intellectual energies of faculty and students on increasing and maintaining high-performance indicators specific to the modern military university.

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