

## EUROPE OF KNOWLEDGE: SUSTAINABLE DEVELOPMENT

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### Abstract

The new theoretical concept of the processes of creating knowledge based society and the knowledge economy in the European Union, as well as sustainable development processes is described in the article.

The main idea of this concept is that the creation and development processes of the knowledge-based society and knowledge economy may be attributed to the category of global transformation and sustainable development processes, therefore, all general phenomena and characteristics of global transformations and sustainable development in general, are absolutely typical for the creation and development of the knowledge based society and knowledge economy.

The processes of the creating of knowledge based society and knowledge economy and modernization are analyzed in the general context of the processes of sustainable development. The main principles of creating the knowledge based society and knowledge economy and modernization are described.

Creating and modernization of the knowledge based society and knowledge economy are very complicated processes, oriented to the formation of the new quality of society and qualitatively new lifestyle. Moreover, these processes may be described as “twice” as complicated, because they win distinction by orientations to the pursuit of new quality in two aspects:

- the knowledge based society and knowledge economy, compared to “traditional” society and economy, are in all cases described as qualitatively new,
- creating and development of the knowledge based society and knowledge economy takes place under the conditions of the global changes, which means that qualitative changes take place in all global space, the essence of those changes is the creation and spread of the knowledge-based society and knowledge economy.

A special attention is given to the conclusion that in the environment of the knowledge based society creation and generating knowledge economy and development, the provisions for sustainable development should be attained.

The following general conclusions were made:

- the processes of creating knowledge based society and generating knowledge economy and its further development should be understood as the undivided unity,
- the processes of creating knowledge based society and generating knowledge economy and its further development should be perceived as relevant to all spheres of life – meaning social, economic and political life, culture, advancement of science and technologies, interaction with nature in general and environment in particular,
- the processes of creating knowledge based society and generating knowledge economy and its further development should be comprehended as the ones providing economic preconditions for modernization of the society and refinement of its life in accordance with the standards, norms and values of knowledge based society,
- the processes of creating knowledge based society and knowledge economy and further development should be interpreted as multi-dimensional and extremely complex and uninterrupted process which manifests itself in cyclical changes and leaps towards higher quality standards,
- the complex approach towards knowledge based society and knowledge economy creation and further development should be implemented in all stages of scientific research, studies and practical activities, including the prioritizing various programmes on multi- and cross-disciplinary research and studies, as well as strategic solutions of the complex character in various stages of regional development, planning and designing of economic and technological leaps.

The processes of creating knowledge based society and knowledge economy and further development should be analyzed and assessed in the context of the priorities of sustainable development. By knowledge based society and knowledge economy creation and further development, harmonization should be sought in the following:

- in the fields of various social, economic, political development, culture, advancement in science and technologies, interplay with nature and other fields,
- in the environment of changes in various countries, regions or otherwise geographically or regionally defined systems,
- in changes occurring in various layers in society.

The processes of creating knowledge based society and knowledge economy and further development should be analyzed and assessed in the context of processes of globalization and internationalization, as well as processes of global transformations.

#### Keywords:

Knowledge society, knowledge economy, sustainable development, Europe.

#### Introduction

Creation and modernization of the knowledge based society and knowledge economy, as well as the processes of sustainable development in the European Union are very complicated processes, oriented to the formation of the new quality society and qualitatively new lifestyle.

A lot of new phenomena and circumstances show up under the contemporary conditions of social, economic, political development and progress of science and technologies. In order to understand and react to them, it is necessary to see into so-called problems of the sustainable development and problems of the creation of knowledge based society and knowledge economy, and to strive that these problems were solved adequately with the new challenges in the life of the society.

The importance and significance of the problems of the sustainable development are indicated by the fact that the understanding and salvation of these problems is one of the main priorities implemented in the contemporary practice of scientific research.

Modern attitudes to the sustainable development, to the concept of sustainable development as well as to the understanding and salvation of the problems of sustainable development can be characterized by extremely wide *variety*. Such variety determines the fact that the phenomena, problems and topicalities can be analyzed by:

- including *spaces of different extent* (various regions, countries or their groups, the world), as well as including *different systems* (various organizations, their groups, other systems),
- involving *different combinations of processes, phenomena, factors and circumstances of social, economical, political development, and progress of science and technologies* into the unit of developmental processes,
- giving preference to *different social, economic, ecological, technological, political as well as other manifestations, consequences or circumstances of the sustainable development*,
- regarding the *management features* of various processes of development and progress as well as the

*multiplicity of different subjects and their interests* that take place in management process.

The research of the problems of sustainable development is *multi- and interdisciplinary* by nature, they must inevitably have attitudes to social and economic development, progress in technologies, environmental protection and changes in the modern society and its life, which reflect various areas of science, integrated in them. An important aspect of the research on sustainable development is a *regional* one, since various social, economic, technological, ecological factors are assessed *in the extent of variously identified regions*, by trying to reveal the interaction of processes and changes of different nature in various regional systems herewith.

Traditional attitudes to the sustainable development emphasize the necessity to ensure the internecine compatibility and compensation of developmental processes and changes that have different nature. What is more, they emphasize the priorities such as the necessity to ensure the *harmony of economic development and social changes*, the needs to avoid *negative ecological consequences* that arise or may show up under the conditions of *technological progress*, the needs to comprehensively protect natural resources, avoid negative impact on a person and his health, the needs to orient urbanization processes and technological progress to stricter standards of ecological, social and environmental protection (Melnikas B., 1990, 2002).

Despite the fact that traditional attitudes to the sustainable development are characterized by a wide variety, extensive coverage of processes and problems and considerable possibilities of practical application, it is still possible to claim that nowadays there appear many new circumstances, conditions and phenomena, the impact and role of which *insufficiently* reflect in most of the traditional attitudes. For this reason, traditional conceptions of sustainable development and its problems become more and more *inadequate* to the modern needs and challenges and require essential supplements and specifications.

It must be noted, that modern attitudes to sustainable development should deeper reflect the role and influence of *new type transformation processes* that are taking

place in the world now. The most important role and influence are of those transformations, which reflect *the creation of knowledge based society and knowledge economy* as well as *global spread of values and ideas* of the knowledge based society: namely the creation of knowledge based society and the spread of its values and ideas in the global environment condition new transformations in the modern society and its life, as well as help to understand the necessity *to react to the needs of sustainable development and solve new problems of the sustainable development in a new way.*

It is possible to claim that the essential *priority* of sustainable development concept actualization is the fact that the modern concept of sustainable development must reflect both the global transformation processes in general and those global transformation processes, which reflect *the creation of knowledge based society and knowledge economy and the spread of values and ideas of the knowledge based society.*

It is purposeful to refer to certain *theoretical attitudes*, which could be used when *analyzing various phenomena of the sustainable development* in complex with *various phenomena of the knowledge based society and knowledge economy creation processes* as well as *solving different management issues of the sustainable development processes.*

### **The knowledge based society and knowledge economy creation processes in the context of the new challenges for sustainable development**

Recently, the creation and development of the knowledge based society and knowledge economy are perceived as one of the most important *priorities* of the modern society and its lifestyle development, as well as of social, economic, political development, science and technological progress. The creation and development of the knowledge based society and knowledge economy are assessed as *the most important assumption* and *the main way* to solve most of the social, economic, technological, even security and defense problems worldwide as well as in various countries or regions in general and in various countries or regions in the space of the European Union (Boldrin M., Canova F., 2001; Cohendet P., Stojak L., 2005; Currie W., 2000.; David, P. A.; Foray D., 2002; Dicken P., 1998; Ein-Dor P., Myers, M., Raman, K. S., 2004; Farnsworth K., 2005; Garrett G., Mitchell D., 2001; Goeransson B., Soederberg J., 2005; Grace A., Butler T., 2005; Hayo B., Seifert W., 2003; Hunt S. D., 2000; Huseman R. C., Godman J. P., 1999; Leydesdorff L., 2004; McNally R., 1999; Melnikas B., 1990, 2002, 2008; Melnikas B., Reichelt B., 2004; Merrill R. E., Sedgwick H. D., 1997; Munasinghe M., Sunkel O., de Miguel C., 2001; Olsen T. E., Osmundsen P., 2003; Parker B., 1998; Perraton J., 2001; Redding S., Venables A. J., 2004;

Sangmon K., 2002; Steinmueller W. E., 2002).

The creation of the knowledge based society and knowledge economy expresses the *essential qualitative changes* in all the areas of social, economic, political life, science and technological progress, and interaction with nature. The creation of the knowledge-based society and knowledge economy deeply influences the content of *globalization* processes and the effect on a situation in the modern world.

The processes of the creation of the knowledge based society and knowledge economy are perceived and assessed as an *essential worldwide transformation*, which determines a number of *breakings and sallies*, important to all the humankind.

The *concepts* of the knowledge based society and knowledge economy as well as their creation processes are very multiple. Therefore, it is obvious, that the concepts of the knowledge based society and knowledge economy may be defined and described differently.

In order to substantiate the appropriate definitions and descriptions, it is necessary to regard the following:

- when describing a certain *society*, the underlying attention must be paid to the highlighting of *the most important values, typical of the society itself*,
- when describing a certain *economy*, the underlying attention must be paid to the highlighting of *the most important factors of the economy growth.*

Regarding the above-mentioned attitude, it is possible to claim that it is purposeful to describe the concepts of the *knowledge based society and knowledge economy* as follows:

- the knowledge based society is the society which is characterized by the *values* of the *predominance of creativity and creative activity*, as well as the *values*, which express the *generation, spread and use of new knowledge*. In the knowledge based society, the *underlying interests* express the objectives to *create, spread and use new products of art, technical, business and other creation*, as well as *initiate, generate and implement multiple creative ideas and innovations* in all areas of life.
- the knowledge economy is the economy, for which the *underlying growth factor* is the *potential, intended for the generation, spread and use of the new knowledge, as well as the activation of creativity*. The *raising and possession of the abilities to create, spread and use new knowledge, ideas and innovations* in all areas of life, as well as the *incessant raise of the economical efficiency with the acceleration and activation means of the science and technological progress* are the *underlying conditions* for economical growth and modernization in the knowledge economy.

The provided descriptions of the concepts reflect the *main orientations of values, which express the objectives of creativity, creation activation and new*

*knowledge generation*, typical of the *knowledge based society*, as well as the *main features*, which characterize the significance of the *new knowledge generation, innovation and science and technological progress*, typical of the *knowledge economy*.

In order to describe the society and economy reasonably, it is necessary to regard the fact, that there are *internal contradictions*, which appear in every society and in every economy system, and which operate the same as the *propulsion stimulating the progress of the society and economy*, as well as the *cause*, which determines certain *destructive processes* that can “destroy” or destabilize both the society and the economy. For example, the modern “western” type democratic society and the modern market economy are typical of various *property oriented capitalistic economy contradictions*, which may be assessed as the *essential ones*. Such *property oriented capitalistic economy contradictions*, which express the *priorities of consumption*, reflect the *preconditions for progress and perfection* (especially the preconditions for the increase of competitiveness, potential growth, modernization and effectiveness), as well as the *preconditions* for the various *inadequacy* to appear for the future needs and challenges (it is obvious, that the expression for the inadequacy needs and challenges may affect the society and economy, and may determine certain “destruction” processes and condition the *needs for the essential qualitative changes*).

The highlighting of the *underlying values*, which are typical of the knowledge-based society and which express the domination of creative activity, generation, spread and use of new knowledge, allows realizing that *the essential internal contradiction* of the knowledge-based society is the *contradiction* among the society members, groups, layers and variously identified management subjects, which belong to *two different categories*:

- one category is the society members, groups, layers and subjects, who become leaders, able to initiate the creation of new knowledge, ideas and innovations, participate in multiple creation actively, intensively and productively, develop creative activity, generate, spread and efficiently use the new knowledge and ideas. The society members, groups, layers and subjects, who belong to this category, generally *take over* the real *management of the society* and carry out the *functions of its development and progress*. What is more, the creation and spread of the new knowledge, ideas and innovations generally express the *prerogative of making management decisions, especially strategic ones*,
- the other category is the society members, groups, layers and subjects, who *lose or do not have real possibilities* to initiate the creation of new knowledge,

ideas and innovations, *do not have real conditions and skills* to participate in the creation actively and intensively, to develop creative activity independently, or to generate, spread and efficiently use the new knowledge and ideas. The society members, groups, layers and subjects that belong to this category generally become just *ordinary effectors*, who have *very limited power* and only perform the *functions of effectors*, including even those areas, where huge innovation changes take place.

The above-mentioned contradiction reflects the *internal differentiation logic*, typical of the knowledge based society, when the position of different members, groups, layers or subjects of the society is determined by the *role and place when initiating, generating, spreading and using new knowledge, ideas and innovations*. Besides, the expression of the above-mentioned contradiction is *universal*: this contradiction may be perceived as appearing in the lives of separate countries and regions, and as the one, which appears in separate groups or layers of the society, as well as the one, which may appear globally in the future.

The above-mentioned contradiction reflects the meaning of those *propulsions*, which determine and will determine the *development and progress of the knowledge based society*, as well as the preconditions for various *threats and dangers* to appear, which may inevitably arise under the conditions of the knowledge based society. It is obvious, that the *internal differentiation of the society*, which expresses *different* role and place of various society members, groups, layers and subjects when initiating, generating, spreading and using new knowledge, ideas and innovations, may show itself *in two ways*:

- as *propulsion*, which determines further development and progress of the knowledge-based society, because the *objectives to activate and effectuate creative processes*, when initiating, generating, spreading and using new knowledge, ideas and innovations, become the underlying *stimulus* of the development and progress, and the *potency* activating the processes of development and progress,
- as a precondition for new *threats and dangers* to appear, because, under the conditions, when the society differentiation exceeds certain critical limits, there inevitably appear various *tendencies of the destructive manner*, including the tendencies to integrate various means, based on the use of the newest science and technological progress results, into destructive processes.

The internal contradictions, typical of the knowledge based society, influence the processes of *knowledge economy* creation and development. The underlying conditions for economic growth and modernization, typical of the knowledge economy, which include

education and possession of the abilities to create, spread and use new knowledge, ideas and innovations, as well as increase economic efficiency with the acceleration and activation means of science and technological progress, may be assessed *in two ways*:

- as the *propulsion*, typical of the development and progress of the knowledge economy, which reflects the influence of the initiation, generation, spread and use of the new knowledge, ideas and innovations, as well as of the results of science and technological progress, on the growth and effectuation of the economy itself,
- as the *precondition* for the new threats, dangers and risks to appear, which are characteristic of the knowledge-based society and knowledge economy and which may cause various *undesirable negative results* of the knowledge economy development and progress, which appear or may appear in various sectors of economic life as well as in various areas of the society's life and development in general.

Besides, the perception of the importance of internal contradictions, typical of the knowledge based society and knowledge economy, determines the necessity and needs to analyze and assess the creation, development and progress phenomena of the knowledge based society and knowledge economy, in the context of the ideas and attitudes of the *sustainable development*. Namely, the observance of the sustainable development attitudes and the objectives to implement the ideals of the sustainable development create real preconditions to develop the knowledge based society and to create modern knowledge economy single-mindedly and efficiently.

### **Principles of the knowledge based society and knowledge economy creation and modernization**

For the sake of the scientific cognition and purposeful management of the creation and modernization processes of the knowledge based society and knowledge economy, it is necessary to regard the *essential principles*, which reflect *qualitative changes* in the society in general as well as in the *economic life* of the society.

It must be emphasized, that the *essential principles* to be implemented under the conditions of the creation and modernization of the knowledge based society and knowledge economy reflect the *aim* to create favorable conditions to *get synergetic effects and to use them*, as well as to create favorable circumstances to *generate new synergetic effects*. In general, it is possible to claim, that the creation and modernization processes of the knowledge based society and knowledge economy may be assessed as the *complex expression of the synergetic effects*.

Creation and modernization of the knowledge based society and knowledge economy are *very complicated processes, oriented to the formation of the new quality*

*society and qualitatively new lifestyle*. Moreover, these processes may be described as *"twice" as complicated*, because they win distinction by orientations to the *pursuit of new quality in two aspects*:

- the knowledge based society and knowledge economy, compared to "traditional" society and economy, are in all cases described as qualitatively new,
- creation and development of the knowledge based society and knowledge economy takes place under the conditions of the *global changes*, which means that *qualitative changes* take place *in all global space*, the essence of those changes is the creation and spread of the knowledge-based society and knowledge economy.

Analyzing the creation possibilities and perspectives of the knowledge based society and knowledge economy, it is purposeful to refer to the *universal principle of the "new quality creation"* (Melnikas B., 2008). This principle is applied in various cases of life in all areas: this principle is suitable for the analysis of the knowledge based society and knowledge economy coming and spread processes, typical under the conditions of modern globalization and for the political, social and economic development and progress, taking place in the globalization environment.

The *universal principle of the "new quality creation"* may be formulated as follows: *new quality always forms itself or is formed on the ground of conjugation, when elements of different origin, which never before belonged to the same system, merge into a common interaction system*. This principle expresses the abstraction and use of *synergetic effect* and shows, that *qualitative changes* always require actions and means, necessary to *merge elements of different origin into a common system*.

When applying the *universal principle of the "new quality creation"*, it is necessary to regard the fact, that *new quality* is always formed *as a result of the conjugation*. Besides, the *conjugation processes* may be very different and in the most general case, they may be attributed to two types: *integration processes and synthesis processes*.

*Integration processes* are characterized by the fact that, during the conjugation, the interacting and conjugating elements *do not lose their natural important features*; it means that *new quality, typical of the integration result, may later be disintegrated according to the previous features of the conjugated elements* (It means that integration result may later be *disintegrated* and the *previous state*, which existed before the elements merged, may be *restored*).

*Synthesis processes* are characterized by the fact that, during the conjugation, the interacting and conjugating elements *lose their natural important features*; it means that *new quality, typical of the integration result, may not be disintegrated according to the previous features*

of the conjugated elements (It means that the synthesis process is created irreversibly).

An important thing is that *qualitative processes based on synthesis* are *irreversible*; meanwhile *qualitative processes based in integration* in certain cases may be *reversible*.

The perception of the essence of integration and synthesis processes, as the processes of new quality creation, allows applying the *universal principle of the "new quality creation"* quite widely when analyzing very different phenomena, including the creation of the knowledge-based society and knowledge economy. Analyzing these phenomena, it is important to assess, *to what extent* various changes, development and progress are based on the *integration* processes and *to what extent* the *synthesis* processes determine the changes.

The above-mentioned propositions reflect the essence of the *universal principle of the "new quality creation"* and allow revealing the significance of this principle when creating the knowledge-based society and knowledge economy.

It must be noted, that, under the creation and modernization conditions of the knowledge based society and knowledge economy, besides the mentioned *universal principle of the "new quality creation"*, other principles are also implemented, including a very important *universal innovativeness principle*.

The *universal innovativeness principle* allows perceiving the *initiation, generation, spread, use and further renewal logic of innovations and new knowledge* in general. The essence of this logic is that the processes of initiation, generation, spread, use and further renewal of innovations and new knowledge in general are treated as expression of certain *cycles* and when perceiving that *two* preconditions of these processes exist:

- generation, spread and use cycles of any innovations, new ideas and new knowledge is started by a certain subject, performing *the function of new idea or innovation generation*, which has to dispose of *creative potential*, necessary for the generation of a new idea or innovation, has to be able to use this creative potential properly and tangibly *generate* appropriate innovations, new ideas and knowledge. It must be noted, that in the generation course of innovations, new ideas and knowledge, *opposition* is usually expressed for the established attitudes, traditions, perceptions, models and stereotypes, therefore the *subject, carrying out the functions of generation*, may be assessed as having the *opponent* abilities,
- any innovations, new ideas or new knowledge may be tangibly spread and used in practice only in those cases when a certain *critical mass*, necessary to "accept" and assimilate *newly generated innovations, ideas and new knowledge*, is formed in an appropriate

cultural, social, economic, political environment. It is also possible to claim that *critical mass* shows the environment's ability to tolerate appropriate innovations as well as initiate and activate *change processes* and stimulate the *adaptation to changes* based on *self-regulation*.

The abilities to adequately perceive the essence of the both described preconditions and of the universal innovativeness principle are very important condition to cognize scientifically and influence purposefully the creation and modernization processes of the knowledge-based society and knowledge economy.

Summarizing the stated propositions, it is possible to note, that *universal "new quality creation" and innovativeness principles* not only allow complexly perceive the creation and modernization essence of the knowledge based society and knowledge economy, but also reflect the possibilities to influence and manage certain development and change processes.

In turn, in order to influence and manage the creation and modernization processes of the knowledge based society and knowledge economy single-mindedly, including the needs to implement the ideas and attitudes of the *sustainable development*, it is necessary to cognize the *phenomena*, typical for the creation, development and progress of the knowledge based society and knowledge economy, and to perceive the *expression* peculiarities of these phenomena.

### **Phenomena of the knowledge based society and knowledge economy creation: challenges for the sustainable development**

The processes of the creation and development of the knowledge based society and knowledge economy are characterized by a wide *variety* and significant *phenomena*.

The creation and development of the knowledge based society and knowledge economy may be attributed to the category of *global transformation processes*, therefore *all general phenomena*, and characteristic of *global transformations* in general, are unconditionally typical of the *creation and development of the knowledge based society and knowledge economy*. The perception of the essence of these phenomena and their adaptation, regarding the peculiarities of the creation and development processes of the knowledge based society and knowledge economy, allows adequately diagnose and effectively solve topical modernization problems of the society and its economic life, including the ones in the context of the *sustainable development*.

Besides the above-mentioned *general phenomena*, certain *specific phenomena* appear or may appear under the creation and development conditions of the knowledge based society and knowledge economy.

*Specific phenomena* reflect *exceptional peculiarities*

typical of the creation and development processes of the knowledge based society and knowledge economy. Among such phenomena, the following should be emphasized:

- phenomena, which characterize the *continuation* of the creation and development processes of the knowledge based society and knowledge economy, including the continuation with regard to previous forms of the society and its economical life,
- phenomena, which express the significance of *culture and mentality factors* and *efficiency of the human resources education systems*.
- phenomena, which express *inequality* of the creation and development processes of the knowledge based society and knowledge economy,
- phenomena, which express *globalization and internationalization circumstances* typical of the creation and development of the knowledge based society and knowledge economy.

The *continuation phenomena of the creation and development processes of the knowledge based society and knowledge economy* show that the knowledge based society and knowledge economy may be created only under the conditions, when:

- the society itself nurtures social, economic, political, cultural and mentality *assumptions* in order to form *critical mass*, which ensures the *domination and spread of values* typical of the knowledge based society: the knowledge-based society may be created and further developed if *high level of creative potency and tendency to innovations* is achieved, and if this level is realized as a *sufficient start position* for further development,
- the society achieves a *very high level of material welfare and social comfort*, which is enough to create *economic assumptions for miscellaneous sallies* for the sake of further development of the knowledge base society and knowledge economy,
- *economic potential*, meant for the development of the knowledge based society and knowledge economy, is created in the economic system.

The above-mentioned phenomena reflect the *tendency*, which shows that the creation and further development processes of the knowledge based society and knowledge economy are the *continuation* of previous development, progress and change processes, which took place and continue in various areas of social, economic life and science and technological progress.

The *phenomena, which reflect the significance of culture and mentality systems as well as the systems of human resources education* show, that various circumstances, which influence *cultural and mentality changes*, as well as *changes in the areas of human resources education*, gain *underlying importance* under the conditions of the creation and development of the

knowledge based society and knowledge economy. *Phenomena, which reflect contradictory tendencies*, are especially emphasized among the above-mentioned phenomena.

One of the phenomena, reflecting contradictory tendencies, is the *phenomenon of real as well as imitational change interaction*, typical of culture and mentality. *Two different tendencies* are expressed by this phenomenon:

- a tendency, the essence of which is the *decrease* of the significance of values, *oriented to consumption*, and the *increase* of the significance of values, *oriented to creativeness and innovativeness*. The result of this tendency expression is that the society members, groups, layers and subjects, who prefer the *values oriented to creativeness and innovativeness*, gradually gain more and more possibilities to create a certain *critical mass*, which is necessary to develop the knowledge-based society and knowledge economy further,
- a tendency, the essence of which is the increasing expression of *significance imitation of values, oriented to creativeness and innovativeness*, inadequate to reality and typical of declarations, when virtually, the significance of those values *does not increase*, and the significance of *values oriented to consumption increases*. This tendency partially reflects a tendency to *imitate* real preparation and maturity, typical of the modern society, to develop the knowledge-based society and knowledge economy and *declare the aims, inadequate for the reality quite gratuitously* in the area of the creation of the knowledge-based society and knowledge economy.

Another phenomenon, reflecting *contradictory tendencies*, is the *phenomenon of efficiency increase of the human resources education systems*. This phenomenon also expresses several *different tendencies*:

- a tendency, which reflects the increase of the role of *human resources education systems* and the *needs to effectuate the education of human resources*, by giving priority to the creativeness and innovativeness abilities and to the orientations to a rapid progress of science and technologies. This tendency, by nature, is adequate to the significance of the creation and development aims of the knowledge based society and knowledge economy and reflects the needs of the role increase of human resources education,
- a tendency, which reflects the spreading *tendencies to superficiality* and an increasing *imitation of modernity and high quality* in various links of human resources education. There is an increase of links, which are tangibly oriented to *quite a superficial, yet "externally" modern, education and caliber*. (this tendency also reflects a leaning towards the artificial *prominence of formal assessments and*

“external” attributes, typical of educational systems, when actually, there is not a strive for a qualitative education and caliber, especially in the shape of real quality knowledge as well as creativeness and innovativeness abilities, but a strive for “externally” impressive positive assessments),

- a tendency, which reflects an *increasing gap* among the links of human resources education, which are oriented to a tangibly *elite* education and caliber, and among links, which are oriented to *mass* education and caliber. This tendency reflects assumptions to increase differentiation inside the society as well as differentiation among different economy sectors and different regional economy systems, and the base of differentiation being different quality of education and caliber as well as different skills, necessary to generate, spread and efficiently use new ideas and innovation in the knowledge-based society.

Phenomena, which characterize *cultural and mentality factors as well as efficiency significance of human resources education systems* and which reflect *contradictory* tendencies, confirm ambiguity and complexion of the creation and development processes of the knowledge based society and knowledge economy.

Phenomena, which reflect *inequality of the creation and development processes of the knowledge based society and knowledge economy*, reflect *multiple tendencies of unequal changes*. Among such tendencies, the following ones should be emphasized, which show:

- *inequality* of the creation and development processes of the knowledge-based society and knowledge economy *in different countries and regions*,
- *inequality of different nature social, economic, technological and other processes*, which characterize the creation and development processes of the knowledge-based society and knowledge economy in separate countries or regional systems, as well as in separate sectors of the social economic life and progress of science and technologies,
- creation *inequality* of social, economic, political, juridical, cultural, mentality, technological and other assumptions, which are necessary for the creation and development processes of the knowledge based society and knowledge economy.

The above-mentioned tendencies, which show inequalities of the creation and development processes of the knowledge based society and knowledge economy, may be assessed in two ways:

- as the ones, which reveal the *needs* to pay underlying attention to the *sustainable development* under the conditions of the creation and development processes of the knowledge based society and knowledge economy.
- as the ones, which reveal various *threats and dangers*, which may be caused by various *development*

*and change inequalities*, under the conditions of the creation and development processes of the knowledge-based society and knowledge economy.

Besides, development and change inequalities and their expression, which appear under the conditions of the creation and development of the knowledge based society and knowledge economy, are also greatly determined by those circumstances, which are attributed to the circumstances category of *globalization and internationalization* processes.

Phenomena, which reflect *the globalization and internationalization circumstances, necessary for the creation and development of the knowledge based society and knowledge economy*, show, that the creation and development processes of the knowledge-based society and knowledge economy, as a unit, have very clearly expressed *internationalism* and may be assessed as a very important *part of globalization processes*. The following ones are considered as very important:

- phenomenon, which expresses the spread of the creation and development processes of the knowledge based society and knowledge economy in the extent of *global spaces*,
- phenomenon, which expresses possibilities to create and develop the *nuclei* of the knowledge based society and knowledge economy in various *spaces and environments* globally,
- phenomenon, which expresses *increasing mobility and free movement* of human resources, capital, informational and other resources, which participate in the creation and development of the knowledge based society and knowledge economy *globally*,
- phenomenon, which expresses the role increase of *multicultural and inter-cultural competencies* and information exchange, reacting to new conditions when creating and developing the knowledge based society and knowledge economy under globalization conditions,
- phenomenon, which reflects the needs to develop international cooperation when creating the knowledge based society and knowledge economy.

Regarding the fact, that the creation and development processes of the knowledge based society and knowledge economy, especially under the conditions of globalization and internationalization activation, have increasing variety, it is possible to claim, that the described phenomena allow cognizing and assessing the appropriate phenomena *just partially*. It should also be emphasized, that namely the described phenomena, as a unit, allow making a *complex picture* about the situation in the creation and development of the knowledge-based society and knowledge economy, as well as about the perspective of changes.

It must be noted, that the described phenomena reflect the problems of the *sustainable development*,

which inevitably appear under the creation and development conditions of the knowledge-based society and knowledge economy, and allow highlighting and reasoning the *priorities* of these problems salvation.

### Conclusions

1. The knowledge based society and knowledge economy creation is an important priority of the social, economic and technological changes and development processes in the European Union. The processes of the creation of knowledge based society and generating knowledge economy and its further development should be understood as *the undivided unity*:

- the processes of the creation of knowledge based society and generating knowledge economy and its further development should be perceived as relevant to *all* spheres of life – meaning social, economic, and political life, culture, advancement of science and technologies and their advancement, interaction with nature in general and environment in particular,
- the processes of the creation of knowledge based society and generating knowledge economy and its further development should be comprehended as the ones providing *economic preconditions* for modernization of the society and refinement of its life in accordance with the standards, norms and values of knowledge based society,
- the processes of the creation of knowledge based society and generating knowledge economy and its further development should be interpreted as multi-dimensional and extremely complex and uninterrupted process which manifests itself in *cyclical changes and leaps towards higher quality standards, the complex approach* towards knowledge based society and generating knowledge economy and its further development should be implemented in *all* stages of scientific research, studies and practical activities, including the prioritizing various programmes on multi- and cross-disciplinary research and studies, as well as strategic solutions of the complex character in various stages

2. The knowledge based society and knowledge economy creation processes could be analyzed in the context of *the ideas of sustainable development*: the processes of the creation and development of the knowledge based society and knowledge economy may be attributed to the category of *global transformation and sustainable development processes*, therefore, all general phenomena and characteristic of global transformations and sustainable development in general, are unconditionally typical for the creation and development of the knowledge based society and

knowledge economy.

By the creating knowledge based society and generating knowledge economy and its further development, *harmonization* should be sought in the following:

- in the fields of various social, economic, political development, culture, advancement in science and technologies, interplay with nature and other fields,
  - in the environment of changes in various countries, regions or otherwise geographically or regionally defined systems,
  - in changes occurring in various layers in society.
3. Creation and modernization of the knowledge-based society and knowledge economy are *very complicated processes, oriented to the formation of the new quality society and qualitatively new lifestyle*. Moreover, these processes may be described as *“twice” as complicated*, because they win distinction by orientations to the *pursuit of new quality in two aspects*:
- the knowledge-based society and knowledge economy, compared to “traditional” society and economy, are in all cases described as qualitatively new,
  - creation and development of the knowledge-based society and knowledge economy takes place under the conditions of the *global changes*, which means that *qualitative changes* take place *in all global space*, the essence of those changes is the creation and spread of the knowledge-based society and knowledge economy,
4. Analyzing the creation possibilities and perspectives of the knowledge-based society and knowledge economy, it is purposeful to refer to the *universal principle of the “new quality creation”*. This principle expresses the abstraction and use of *synergetic effect* and shows, that *qualitative changes* always require actions and means, necessary to *merge elements of different origin into a common system*. *The new quality* is always formed as a result of the *conjugation*: the *conjugation processes* may be very different and in the most general case, they may be attributed to *two types -integration processes and synthesis processes*. Besides the *universal principle of the “new quality creation”*, other principles are also implemented, including a very important *universal innovativeness principle*, which allows perceiving the *initiation, generation, spread, use and further renewal logic of innovations and new knowledge* in general. The essence of this logic is that the processes of initiation, generation, spread, use and further renewal of innovations and new knowledge in general are treated as expression of certain *cycles* and when perceiving that *two preconditions* of these

processes exist:

- generation, spread and use cycles of any innovations, new ideas and new knowledge is started by a certain subject, performing *the function of new idea or innovation generation*, which has to dispose of *creative potential*, necessary for the generation of a new idea or innovation, has to be able to use this creative potential properly and tangibly *generate* appropriate innovations, new ideas and knowledge. It must be noted, that in the generation course of innovations, new ideas and knowledge, *opposition* is usually expressed for the established attitudes, traditions, perceptions, models and stereotypes, therefore the *subject, carrying out the functions of generation*, may be assessed as having the *opponent abilities*,
- any innovations, new ideas or new knowledge may be tangibly spread and used in practice only in those cases when a certain *critical mass*, necessary to “accept” and assimilate *newly generated innovations, ideas and new knowledge*, is formed in an appropriate cultural, social, economic, political environment. It is also possible to claim that *critical mass* shows the environment’s ability to tolerate appropriate innovations as well as initiate and activate *change processes* and stimulate the *adaptation to changes* based on *self-regulation*.

5. *Universal “new quality creation” and innovativeness principles* not only allow complexly perceive the creation and modernization essence of the knowledge-based society and knowledge economy, but also reflect the possibilities to influence and manage certain development and change processes. In order to influence and manage the creation and modernization processes of the knowledge based society and knowledge economy single-mindedly, including the needs to implement the ideas and attitudes of the *sustainable development*, it is necessary to cognize the *phenomena*, typical of the creation, development and progress of the knowledge-based society and knowledge economy, and to perceive the *expression peculiarities* of these phenomena.

The creation and development processes of the knowledge based society and knowledge economy may be attributed to the category of *global transformation processes*, therefore *all general phenomena*, and characteristic of *global transformations* in general, are unconditionally typical of the *creation and development of the knowledge based society and knowledge economy*.

*Specific phenomena* reflect *exceptional peculiarities* typical of the creation and development processes of the knowledge-based society and knowledge economy. Among such phenomena, the following should be emphasized:

- phenomena, which characterize the *continuation* of the creation and development processes of the knowledge-based society and knowledge economy, including the continuation with regard to previous forms of the society and its economical life,
  - phenomena, which express the significance of *culture and mentality factors* and *efficiency of the human resources education systems*.
  - phenomena, which express *inequality* of the creation and development processes of the knowledge-based society and knowledge economy,
  - phenomena, which express *globalization and internationalization circumstances* typical of the creation and development of the knowledge-based society and knowledge economy.
6. The research of the problems of sustainable development, as well as the problems of creation of the knowledge based society and knowledge economy is *multi- and interdisciplinary* by nature, they must inevitably have attitudes to social and economic development, progress in technologies, environmental protection and changes in the modern society and its life, which reflect various areas of science, integrated in them. An important aspect of the research on sustainable development as well as on creation of the knowledge based society and knowledge economy is a *regional* one, since various social, economic, technological, ecological factors are assessed *in the extent of variously identified regions*, by trying to reveal the interaction of processes and changes of different nature in various regional systems herewith.

The processes of the creation of knowledge based society and generating knowledge economy and its further development should be analyzed and assessed in the context of *processes of globalization and internationalization*. The new priorities for *development of international cooperation* and *priorities for improving international management* show:

- development of international cooperation and improvement of international management should be based upon promotion and practical application of the *ideas, patterns and technologies of networking*,
- within international management a key trend should dominate oriented towards activation and promotion of *creativity, innovation and entrepreneurship*, as well as towards the implementation of the ideas of *sustainable development and harmony*.

In all chains of human resource training the means should be implemented oriented towards the adequate response to the emerging needs to consecutively solve

the problems of sustainable development, elaboration of international management and activation of international cooperation manifesting them in the context of the creation of knowledge based society and generating knowledge economy and its further development.

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