"Challenges on science and humanities
for cognitive anticipation on Living Science Understanding"

Proposal acronym:

< MEI-ONNS>
EUROPEAN PATHFINDER PROJECT on CULTURAL DYNAMICS.

Proposal abstract

As the civilization has progressed from Agricultural to Industrial and to Knowledge Societies there has been observed a shift of a large scale on social and scientific activities from Matter (M) to Energy (E) and to Information. (I). Living today in an information society and looking to enhance cross-disciplinary cultural dynamics, any anticipation of future S&T need to be related to the role and the economic value of Information. The initial remark of the project is the following : every transmission of information (I) needs to be associated to a require of spending some energy (dI).
Therefore it is possible to find the basic relationship among the fundamental categories of the post industrial society and write the formula <+ dI = - dE – dM>, named Principle of Fertile Evolution (PFE). "PFE" means: that :"it is possible to enrich an efficient grow of Information when there is simultaneous decrease of Matter and Energy consumptions". Therefore the "PFE" is an ecologic and economic Principle. So that can be the centre of gravity of the proposed project to accelerate the cultural dynamics in science and society, on the basis of a better understanding the change of the paradigm between mechanical science and the science of life…
Thus "PFE" will be an important guide for many emergent S&T change to innovation for a sustainable future, this because it permits to forecast by means predictive simulation models, the correct knowledge of emerging areas of Science and Society. In fact all living systems, e.c. cells organs and organisms, but also social groups, enterprise's corporations and trans-national organization, all of them have a crucial point of their growth the definition of organizational evolutionary models on the transmission of information.
Besides "PFE" allows to overcome the disciplinary boundaries, so that permits to identify and forecast significant opportunities to assess un-tangible products and process innovation in relation to the increasing value of intellectual and social capital. In fact all living systems as well as social system evolution depends from the communication of information. Therefore "Energy Matter and Information" are the main resources for a sustainable future management of the global integration of world wide society. It is well known that the evolutionary maintenance of diverse forms of living and social systems growth depends by an increasing of information transfer.
In fact to achieve an sustainable dynamics living organisms and social communities must me able to realize an information interactivity with the living neighbouring and /or the social environment. So that "PFE" based on the link among the fundamental variables of the evolutionary dynamics of Physical and Social integrated development can be seen as a pathfinder tool for improving the management of the critical needs of contemporary development of Knowledge Society.
This because the "PFE" can be a guide to renewing the knowledge and to fostering cross-disciplinary sciences in favor of the increasing value of intellectual and social capital in a measurable formulation that sound " it will be possible to increase the value of un-tangibles only when the renewable of natural resources (i.e tangible sources of Energy and Matter) can be decreased throughout the growing of an advanced information transfer to innovation in the world wide society".

So that "PFE" creates a "economies for living". In fact the PFE permits a rethinking a sustainable economy, according to the growth of principles of a living evolution. Yet“ PFE” formula permits to control or eliminate invalid cognitive elements of the mechanical knowledge that do not can be useful in addressing the future of the contemporary science & society, whole dynamics of development of the post industrial knowledge society. Based on those “PFE” application, the focus of the project consists on sharing to an Open Network for New Science the predictive knowledge model based on the change of the paradigm from mechanical one to the new Matter Energy Information interactive relationships (- MEI bi-dimensional -Paradigm).

In fact in the orthodox (<E,M> mechanical paradigm of science) there is no taken in consideration the Energy of Information, i.e the Energy that that necessary to spend for transmit information. Therefore if we would considered the complete energy variation in the time dynamic dimension of evolution systems, we need to consider the introduction of the information energy in the general principle “ energy cannot create or destroyed” This generate as a consequence a "co-variable interactive no linear dynamics" based three types of codified energy (e.c. MEI-paradigm). So that the new science paradigm in this way of reasoning goes from a bi-dimensional interactivity between E,M, toward a three dimensional interactions based on mutual co-evolving transformation among the different codex of energy (MEI).

Therefore as a consequence of the co-evolution MEI system it is possible to derive the PRINCIPLE OF FERTILE EVOLUTION (PFE) that define the relationships among the fundamental variables of the three dimensional – MEI-PARADIGM, in a way that this new relationship can be applied to get a better understanding of both natural and social co-evolution. One of the main results of this PFE theoretical model is coming from a distinction between the concept of selective Darwinian evolution and the concept of Co-evolution dynamical systems. As a matter of facts Communicating in a mutual information systems, permits a co-evolution dynamics and not only a linear selective linear evolution…

In fact the concept of co-evolution enables us to understand what happen, among other things, how new information can enter a system from its environment and this innovative knowledge can be applied to the cells and organs and organisms, as well as to the superior co-organizations of networking societies based on the mutual interaction of information..

I would like to remember that in traditional evolution theory, Darwinian selection was supposed to lead to the survival of specific variants more adaptable to the environment, so that this approach reduces the possible evolution only to ad adaptation system and at the contrary do not permits a new creative solution.. In spite of this co-evolution theory, adds a new solution to the previous conception based only on variation and selection because it is possible to enhance as a third solution the creative construction of knowledge to modify the environment following the guide of the PFE principle about the fertile relationships among Matter Energy and Information.

Henceforth working for a new construction of knowledge based on tacking into account the higher dimensional MEI - paradigm, the system dynamics would be directly depending on the evolutionary "PFE" formula <+dI = -dE -dM> that links the three variables of the total energy differential codification.

Henceforth the Principle of Fertile Evolution. would be considered as a new pathfinder for understanding that co-variation generates the new solution of hat in simple world means that *: “it is possible to enrich an efficient grow of Information when there is simultaneous decrease of Matter and Energy consumptions*”.

Therefore for making the world sustainable the Rationale of an detailed advanced research planning will be reconstructed by means lens of a better cognitive forecasting methodology, will be driven through an "Conceptual Based Reasoning "based on the application of a three--dimensional paradigm (M,E,I).
The last original methodology of forecasting methodology about the rationales of the emerging trends of science and society integration, will be give as a result a future orientation of Science and Technology in the context of future Knowledge Economy, obtainable by a cross disciplinary reconstruction of the mechanical paradigm into a new conceptualization of the (MEI-Paradigm) of science and society..
Therefore the forecasting cognitive method, will be subdivided into a specific case studies corresponding to critical success factors of cognitive long time forecasting (till about the year 2013).In conclusion a large scale dissemination on research and educational targets of this crucial scientific & society forecasting methodology will get a significant influence to grow up a better consciousness to scientific culture of young researchers and, as a consequence, it can get an high-relevance in decision making and an long term socio-economic impact.
A Knowledge Construction Portal and related working plan implementation activities will provide to develop an observatory source for designing strategic knowledge dynamics about the emerging trends incorporated in an explicit global to help the European future planning of Knowledge Society.

B.1 Scientific and technological objectives of the project and state of the art

Aims of MEI-ONNS Project titled "Challenges on science and humanities for cognitive anticipation on Living Science Understanding" is to open new perspectives and approaches and related methods and tools for better understanding of cultural flow dynamics in a way that can be possible to overcome the "clash of civilization" of post industrial society and vice versa to be able to favor the increase and the speed of development of new cultural forms in Science & Society to enhance the European Knowledge based Society. Knowledge dynamics represents a critical resource in the modern enterprises so critical that it is now being conceptualized as central to competitive advantage in a Knowledge-based Economy.
This pioneering Pathfinder initiative is emerging from the general system theory that focuses the cultural dynamics of a complex system transformation of Science and Society, as an event basically determined by the changing socio-economic relationships among the fundamental categories of Matter Energy and Information. In fact, since civilization has progressed from agricultural societies to industrial and to post industrial societies, has been evidenced a progressive shift of cultural flow dynamics from Matter to Energy to Information.
This is the fundamental consideration from which is starting the paradigmatic MEI –ONNS approach that it is not limited to designing a new pathfinder for understanding Science and Tech. predictive development, this because the main goal is to effectively integrate the discontinuity of Science and Society into a multidimensional cross disciplinary representation of knowledge flow dynamics. As a matter of facts a cultural systems re-orientation dynamics, is in the contemporary Science & Society the essential endeavour of better understanding future reorientation of Science and Society..
Therefore this project -line on cultural dynamic change among the fundamental relationships Energy Matter and Information (MEI- Paradigm), is expected to enable a better understanding the correlation between cross-disciplinary cognitive sciences and cultural phenomena, by means the organization of an multidisciplinary open network for new sciences (ONNS).

Hence by means the MEI-ONNS project will be possible to provide the acquisition of evolutionary models of "science of understanding" and to facilitate better consciousness of process involved in the cultural change transmission, by bringing together, researchers across disciplines and simulating cultural dynamics scenery on the basis of study analysis and social network comparison.
In fact the performance of multidisciplinary models depends not only upon its rapid and efficient technological (ITC) knowledge transfer from one organization perspective to another, this because the process of understanding cultural innovation dynamics essentially depend not from a technological change but instead from a mental change focused to the new referring science & society paradigm including the information relationships with the matter and energy well studied interactions during the industrial epoch. As a consequence the project MEI-ONNS will be based on an innovative method of Knowledge Construction aiming to capitalize knowledge innovation, by means applying the Knowledge Construction based on the MEI –paradigm, to several cases of new managerial and decision making intervention on organizational change and workflow of science and society reconfiguration.
This activities will be made to test the predictive capacity of the MEI-ONNS project to transmission change and innovation in human and social culture in a way that can be possible to develop, validate and disseminate new model of cross-disciplinary understanding focused on contemporary problems and emerging trends of cognitive changes, as well as for example to support the increasing values of intellectual and social capital in the European Knowledge Economy functional long-term development.

Looking to the above aims the Tree of Objectives of the MEI-ONNS project are the following and will presented in a measurable and verifiable form in the successive working plan:

1) To make operative in a system flow Dynamics the "Principle of Fertile Evolution" applied for modeling key theoretical concepts in European Science & Knowledge Economy;

2) Thereby to construct cultural system dynamics models which anticipate the key processes which result in different perceptions being held concerning the validity and credibility;

3) PFE based strategy will be studied in a risk analysis considering that there is more than one scientific theory regarding the relationship Matter, Energy and Information. In any case "PFE" will be measured as a necessary conceptual tool to construct a number of different specific models and methods of "Conceptual Based Reasoning" (CBR) containing competing interpretations in the contemporary complementary global development;

4) To apply predictive simulation CBR models to a number of detailed case-studies based on a trans-disciplinary constructivist method and by means of Discourse & Conversation Analysis and Critical Trans-disciplinary Inquiry and confrontation.

5) To demonstrate the theoretical value of Science & Society future simulation and modeling tools, by means of combined qualitative approaches such as discourse interactive conversation analysis; and verified through the discontinuity / continuity in understanding science & technology studies, theory and literature;

6) To launch specific test campaigns to explore the practical value of Scientific & Social simulation modeling tools, in addressing a number of policy and user-driven important questions, about the Knowledge Society development.
7) To provide a conceptual and practical framework of dissemination of innovative concepts, as they are emerging from the different approaches related to the trans-disciplinary concepts, ideas and hypotheses concerning the relationships between "PFE" and the acceptability of its audiences / users., -driven important questions, about the Knowledge Society development.

The transition between Industrial Society to Knowledge Society based of Information and Globalisation, offers an opportunity to change the paradigm from the mechanical schema to a new paradigm more constructive for Life Science understanding. H.Gardner "Changing Minds " HBSP –ISBN 1578517095. (2004). In spite of the popular intuitive concept of Information the world wide stat-of-the-art about the relationship among Matter, Energy and Information is very recent. General systems theorists often refer to Matter, Energy and Information (MEI) as a new paradigm of post-industrial society, based on the relationships of those fundamental categories.

see for instance: S.A. Umpleby:
http://www.gwu.edu/~umpleby/recent_papers/2004_physical_relationships_among_matter_energy_information_umpleby.htm

In fact these three concepts till today are not related through scientific laws as a direct consequence of the traditional splitting between subject and object of classical physics, that works as a cognitive fulcrum of the cultural fragmentation between traditional science basic understanding and human sciences in the historical context of the industrial epoch.
see: http://www.edscuola.it/archivio/lre/science.html Hence the study of the (MEI) paradigm is firstly in generalised living systems theory. For instance L.Von Bertalanffy see: http://www.panarchy.org/vonbertalanffy/systems.1968.html and James G. Miller's [1978] in <Living Systems, New York: McGraw-Hill, 1978> firstly introduced the living systems theory focused on the idea that cells, organs, organisms, groups, corporations, nations, and supranational organizations…etc… need to be understood by MEI interactive paradigm. In biological dynamic systems (e.g., cells, organs, and organisms) matter and energy are so closely related that they are often treated as one entity – matter/energy. (see The DNA Mith – Barry Commoner in: http://mindfully.org/GE/GE4/DNA-Mith-CommunerFeb02.htm Besides the social organization, such as a industrial corporations, processes Matter, Energy and Information within unconnected cognitive approaches (e.g., by transforming raw materials into finished products), energy (including the fuel and electricity needed to operate machines and heat buildings), and information (e.g., customer orders, advertising messages, and accounting records).
See : The Foresight Institute Preparing for nanotechnology (see: http://www.foresigh.org/) Finally Matter and Energy relations are more thoroughly understood by mechanical science, meanwhile scientific conception of Information it is relatively new. (Order out of Chaos -Prigogine & Stengers N.Y Bantam Books-1984) A variety of definitions of information have been proposed. Shannon and Weaver (Claude Shannon and Warren Weaver. The Mathematical Theory of Communication. Urbana, IL: University of Illinois Press, 1949) defined information as a reduction of uncertainty. Gregory Bateson [1972] in < Steps to an Ecology of Mind. New York: Ballantine, 1972, pp. xxv-xxvi > defined information as "that which changes us" or "the difference that makes a difference". Following the above definition of information the dynamics of communication systems evolution are recently been studied:

see for instance http://users.fmg.uva.nl/lleydesdorff/evolcom/ Besides a method of "Conceptual Based Reasoning " can be utilized looking at TOGA Global Meta Theory developed by one of the project collaborators.

see in: http://erg4146.casaccia.enea.it/wwwerg26701/Gad-toga.htm

In conclusion the MEI paradigmatic relationships are very recently debated only in some congresses of Social-cybernetics studies (see: Stuart Umpleby in: Some Applications of Cybernetics to Social Systems. PhD Dissertation, University of Illinois at Urbana-Champaign, 1975, pp. 6-10).Other areas of interest for the application of the Matter, Energy, Information (MEI) paradigm into an Open Network for New Sciences (ONNS), certainly will include the recent state-of-the-art about the management of Communication network, in particular on the issues regarding Intellectual and Social Capital contemporary innovative management of Science & Technology of Information; this because the contemporary dynamics of global change get a large impact on the knowledge value of intangible goods in relation to the tangible one (see for instance: Intellectual Capital Magazine in: http://www.intellectualcapitalcertification.it/ ; and Social Capital Gateway in: http://www.socialcapitalgateway.org/eng-index.htm).
In relation to the very recent methodology of construction of knowledge to fit the Knowing innovation to emergent values of knowledge world wide economy the literature is no sufficient to our goal so that the MEI-ONNS approach will be a novelty cognitive creation approach, for similar methods limited to e.learning process can be useful to refer to Nonaka, I., Takeuchi, H. and Umemoto, K., "A Theory of Organizational Knowledge Creation, "I. Jof Tech-Management: Special Issue on Unlearning and Learning for Technological Innovation 11:7/8 (1996), pp. 833-845. and to MEKEM Project proposal in: http://www.edscuola.it/mekem_project,htm .
And see also: the special issue 2004, on the International Journal of Knowledge, Culture and Change: in http://commonground.cgpublisher.com/product/pub.28/prod.4., and also can be important to look to the Shaping of Future in the Knowledge Society of the Club of Amsterdam in: http://www.clubofamsterdam.com/.
Finally can be useful to take e confrontation of Some Business innovation and Technology Forecasts of specialized agency like the Battelle Business of Innovation Vision in : http://www.battelle.org/forecasts/technology2020.htm and The programs of Predictive Process Engineering see. http://www.mel.nist.gov/msid/ppe.htm Both of those different approaches get a complemented business trend's approach to the Cognitive forecasting of critical success research factors proposed in a perspective to the year 2013, by the MEI-ONNS project.
The above wide literature represents a knowledge-flow dynamics in science and society that can help but it is no sufficient to understand the goals of the Project focused on accelerating the flow of cultural dynamics throughout the conceptual paradigmatic change of post industrial society to the Knowledge Economy futures.Science developed, in the context of Industrial Society, exclusively deal with objective observable reality and for this approach accepts a dualistic nature where one side matter and energy get an objective value, meanwhile Information is considered as well as a subjective entity with a limited value in the good market.
Looking to the post industrial knowledge society it is becoming more and more important to transform information into an objective economic value in the context of development of the Knowledge Economy. Therefore the challenge about the value of the contemporary cultural change based on the rise of intangible capital (i.e the quality of human and social capital), regards essentially the methodology to integrate the concept of Information in the additional value of the developmental society.

Aiming to consider information not more as an subjective category, it will be necessary to overcome the cultural discontinuity between subject and object in the post industrial cultural dynamics; henceforth it would be necessary to consider information as a basic building category related to the other two fundamental categories taken in consideration by the previous civilization models. This effectively is the key cognitive approach of the MEI-ONNS project. In reality although matter and energy have been subject of a scientific investigation during the Industrial Society is relatively new the proposed approach to find and disseminate an novel conceptualisation of the relationships among the three fundamental categories of the MEI-Paradigm.
Nowadays the project MEI-ONNS would contribute to the development of a better cognitive assessment and re-design methods and retrofitting tools for building knowledge innovation bridging together advanced research coming from different field of science and Technology.
The MEI-ONNS research activities will be based on an innovative Knowledge Construction methodology inherently to a cross-disciplinary reconstruction of the dynamic relationships among MEI paradigm. This method and experimentation is an essential part of the research activities of the project to design effective cultural flow-dynamics and enhancing predictive intervention on some aspects of redesigning Knowledge Systems and Processes innovation, and Making Future Research into Knowledge Management of Knowledge Economy.
This result can be developed organizing an Open Network for New Science (ONNS) to clarify, in a trans-disciplinary methodology, the evolutionary model of co-evolution of information in correlation with matter and energy. Henceforth the cognitive science studies of the MEI-ONNS Project will be oriented to correlate cultural and scientific conceptual development by means, favoring a dynamic acquisition and simulation of fundamental traits of the contemporary cultural change for enhancing the European Knowledge Economy. As a matter of facts some relatively new cognitive advancements are strongly related to the MEI Paradigm.
For instance some of they are: the advanced research on cognitive sciences and epistemology, brain imagining, bio-technology, stem cells, etc., all based on the role of information flow dynamics. From one hand it is easy to realize how , sings, signals, symbols and codes and messages of information are becoming a fundamental category to understand all those sectors of living science as well as in social science. On the other hand It is easy to understand that the challenge to valorize the Intellectual and Social Capital is driven by “un-tangible” productivity and management is essentially based on Re-engineering intellectual Work through Information Technology.
So that the studies about how are fundamentally related the three basic categories Matter, Energy and Information, can be seen as a cognitive basic interface that progressively turn out the previous mechanical paradigm of the Industrial Society, in a way that it is becoming possible to generate by means a constructive cross-disciplinary methodology, a novel paradigm MEI.
Henceforth through the research activities of MEI-ONNS project it will become possible to describe how Information concept will be related to the change of the contemporary method and perspectives of production and of the global organization of the division of labour in society in many aspect of Knowledge Economy development

B.2 Relevance to the objectives of NEST PATFINDER Project.

The relevance generated by the above goal will be a consequence of combining the motivations and consensus by European citizen on three different perspectives, i.e. social, economic, and scientific one.

Therefore the Project titled "Challenges on science and humanities for cognitive anticipation of living science understanding", will support the fundamental objective of exploring multiple cognitive sciences domains for approaching new perspectives on Science and Society by means a cognitive constructivism generated by a new community of knowledge (named : Open Network for new Science) The project's results will be disseminated with innovative KNOWLEDGE CONSTRUCTION PORTAL and other e-learning tools aiming to better the contemporary understanding of cultural dynamics focused on the transmission and change to conceptual innovation based on the evolving fundamental complementary constitutive properties of the dynamic interactions among Matter, Energy and Information.
The overall goal of this Specific Target NEST Project is strictly related to the relevant Pathfinder Initiative on Cultural Dynamics directed to forecast and to open the frontiers for tomorrow's research and to attract young researchers into a new cognitive areas with strong future potentials. In fact the project it is addressed in order to identify and underlying the real potential of innovative knowledge domains and methods to enable some STREP's networks of scientific relevance to achieve the challenging objective to anticipate opportunities and needs scientific and technological of the future directions, and opening up the development of European Knowledge Economy.
In fact the cognitive science studies of the MEI-ONNS Project will be oriented to correlate cultural and scientific conceptual development by means favoring a dynamic acquisition and simulation of fundamental traits of cultural change of the post industrial society. As a matter of facts the change forward the Knowledge Society implies a cognitive transformation acting from a cognitive reconstruction that will deeply affect contemporary science and society. For instance it is well known that the economic value of Intellectual and Social Capital in the Knowledge Society are driven by "un-tangible" productivity and management essentially will be based on Information technology and a expansion of a functional employ.
This observation means that in the future of knowledge economy the Intellectual and social value will be no more concentrated in the production of goods, but vice versa will be shifted on the knowledge innovation dynamics. In spite of those important considerations about the importance of the scientific and technological paradigm shift, that can be obtained by means an cognitive impulse to the cultural dynamics. Moreover it is necessary to underline a cognitive strategy of cognitive research able to realize a long term perspectives in order to respond to the true needs of Mankind and Nature developmental sustainability. In this anticipative scenario the cognitive science foresight need to overcome the risk of maintaining the disciplinary boundaries and especially the deep between science and humanities. As a matter of facts this dualism of knowledge it is becoming a serious restraint to challenge in favor to master the dynamic change of the contemporary culture of Science & Society in the context of the development of the European Knowledge Economy.
Therefore the MEI-ONNS project will develop a thinking area open to researchers, decision and political makers, practitioners, educators and interested individuals, for improving a shared approach for new "science of understanding", and opening up new integrated fields of research and communication activities aiming to advance European efforts in emerging fields of cross-disciplinary research in a way that can be possible to assist researchers and especially young researchers in planning future projects in support the consolidation of European Research Area.

B.2.1 – Scientific and Technological (S&T) relevance

Exploratory, innovative character of the proposed project will be based through a Cross Disciplinary rationales of the advanced topics of some fields of science innovation.

The MEI-ONNS proposal will analyses the emerging cognitive trends in continuity and discontinuities for improving explicit integrated approaches to help future science and society planning and decision making about long term research and educational priorities. Because all new approach of reasoning proceeds from pre-existing knowledge a cognitive forecasting analysis to inform strategic anticipative paradigm shift in science understanding, need to become widely applied to many realms of cognitive scientific and humanistic contemporary progress to put in evidence, anomalies and misconceptions and critical factors of human experience realized during the industrial society.
A long term perspective (till about the year 2013) of cultural change will be realized by the MEI-ONNS project that want to involve group of complementary projects for improving and validating the cognitive forecasting in Science & Technology & Society (S&T&S) for the future Knowledge Economy Global Development.
The Rationale of an detailed research planning of cognitive forecasting methodology, will be based on an "Conceptual Based Reasoning Simulation "(CBR) oriented by the cross disciplinary reconstruction of the mechanical paradigm into a new conceptualization of the (MEI-Paradigm) of science and society cross disciplinary integration.
Therefore the forecasting cognitive methodology "CBR", will be can be subdivided on some fundamental Cases of Conceptual Based Reasoning about the rationales of the following complemental research areas representing emerging trends of new strategic forecast for planning the future orientation of science and society:

a) Rationale derived by the state of the art in cognitive sciences, epystemology and Information useful to overcome the risk of the project. . :

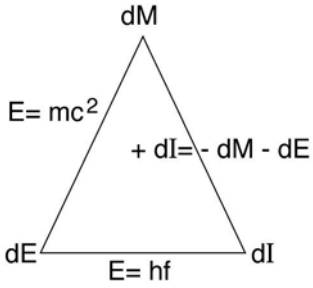
community working jointly to the problem of obtaining an unified cross-disciplinary understanding of a future integrated representation in Science and Society. This approach to modern cognitive science "information science" has become increasingly acquainted with advanced problems of knowledge economy as well as a fundamental act of processing and forecasting of the full realization Knowledge Society endeavour till the year 20013..
The cognitive sciences therefore are sharing an interest in the representation and transformation of information in novel understanding of knowledge dynamics appropriated to the upcoming Science & Society.
Therefore advanced cognitive sciences are strongly interested on the change of the basic assumption within the ruling of a scientific paradigm based on the a novel approach on the relationships among Matter Energy and Information, this because a large amount of cognitive & epistemology research and actions, today recognize that information communication, through global information technology, it is certainly the essence of changing the Science & Society paradigm (S&S) It is important to underline that the increase of the speed of changing new cultural forms today need less time that before in merit of the co-organization of cross-disciplinary research networks well organized as virtual communities At this proposal recent studies would define Information (I) as well as proportional with the data exchange (or messages) (D) , and from the knowledge pre-structure (pS), in function of the time (t); e.c. in formula < I = D, pS, t> The upper equation is meant to stress that to obtain information (I) from certain data (D), an information process is needed and the process requires a certain time (t). Furthermore the outcome of the innovation process is whole dependent on the 'pre-knowledge' structure (pS) available on the mind users. As a matter of facts the previous Knowledge of the customer need time to recognize the new Information and also to understand if the new information can be useful to resolve the anomaly situation in a way to accept the cognitive change.
Therefore from the rationale of up to date cognitive studies and epistemology it is possible to understand how to prevent high risk of the project.

In fact an scientific paradigmatic change effectively occurs, when real users, encounter anomalies which cannot be explained by the traditional Paradigm within which the previous scientific progress has thereto been made. Hence if the pre-knowledge structure is well oriented by means bringing together virtual network co-organized by different disciplinary fields of science, technology and social science and humanities, it will be possible to shorter the time of the process involved in the cultural (S&S) change. b) Rationale coming from the Neurology, Brain imagining technology current state of the art useful to promote future strategy of science education. It is easy to understand that Brain functions work with a simultaneous processing among "Matter, Energy and Information".
Today through neuro-imagine of brain, people can get an image about the Neural Basis of Cognition, and also of the Emotional Experiences, both derived by sharing genetics and environmental information in the working brain.
As a matter of facts today cognitive processes through neuro- imagining are not more largely considered as before non-conscious subjective elements Hence an expectation of a radical deconstruction and reconstruction of cognitive studies based on the splitting between objectivity and subjectivity studies nowadays is supported by a number of research in the neurosciences working on the brain relationships among the MEI Paradigm.
Also this research approach will help a better understanding of Cognitive Cultural Dynamics useful for improving knowledge Society by means a cognitive innovation.
In fact brain's functional knowledge develop a better consciousness of the cultural change because this corresponds to the capacity of an educational system to integrate information in all cross disciplinary aspects and to optimize the quality self-learning approach. Meanwhile the application of such brain's studies to renewing educational school's strategies, constitutes the principal need to favor an advanced cognitive dynamics of innovate learning methodology, that can be useful also in some fields of research as the artificial intelligence production..

c) Rationale derived by the state of the art of Science in Physics and Chemistry in relation to Information Society that constutes the basis for a cultural dynamics pathfinder of the future Knowledge Economy development.

Starting from the work of complex oscillating chemical systems studied by Ilya Prigogine, Nobel Prise in Chemistry (1977), the self-organization of the dynamic system of chemical and bio-chemical transformation is explained in terms of an information activity generated by the auto-catalytic effects. Hence the dynamic process of communication can be studied in molecular biology and can be evidenced in any case of the dynamics of transformation of out of equilibrium dissipative systems working in nature.
Therefore the chemical observation that order is coming out of chaos, embodied a new theoretical approach to bridge the gap between biological and social scientific fields. As a matter of facts from the initial work of Prigogine et Stengers can be possible to think about new scientific and social enquiry based on the general role of information on the transformations working in any case (biological or social) of complex living domain out side of equilibrium conditions.
Therefore in spite of the observation that the organization of each self-catalytic system it is continuously realized under permanent turnover of the differences (d) of matter (M) and energy (E) and information (I), always can be possible to accept again the fundamental postulate of science that sees:
"Energy cannot created or destroyed". Therefore the sum of the different codification of the total Energy can be written as follows: **< dM + dE + dI = 0 >** As a direct consequence an important solution of such equation is **:<+ dI = -dM –dE >**.

This formula means that in each type of transformation dynamics, the increase of information need to find a correspondence with a decrease of employ of Matter and or Energy. The last Equation is named **Principle Fertile Evolution "PFE**" (see for more deep conceptualization in: http://www.edscuola.it/archivio/lre/science_of_information_energy.htm
This generalized principle derived by the advanced studies on chemical physics, can be applied to any dynamics of transformation at molecular levels .Therefore the "PFE" can be seen as a general guide of perspective of change to human and social development because this principle world be useful to understand the direction of the energy flow transformation in all aspects correlating the interaction among tangible dissipative structures as Matter and Energy and Intangible aspects related to Information communication. Therefore by an extension of "PFE" original domain, including ideas and actions dynamic's flow.
This would be the center of gravity of the MEI-ONNS Project because the "PFE" can be considered a Scientific Principle working to the borderline between an emerging ecologic and economic knowledge In this way "PFE" is considered an pathfinder principle able to lighten an emerging trends of science and society for obtaining a wide theoretical insight connecting physical and psychical and social aspects of each dynamical transformation. Hence "PFE" get an new opportunity to understand the complemented perspective of possible evolution of Ecology and Economy scenario, in the context an appropriate integration of cultural dynamics driven by an intellectual management innovation.
In conclusion "PFE" represent a critical theoretical component link Scientific and Human and Social Sciences integration ; in a way that it become possible its utilization to anticipate new perspectives and applications for enhancing the European Knowledge Society.



FERTILE EVOLUTION PRINCIPLE

d) Rationale derived from NANOTECHNOLOGY of non thermal processes of fabrication for improving science beyond thermodynamics..

A foresigh on revitalizing technology is giving by the application of Fertile Evolution Principle ("PFE") to micro-technology because it is becoming possible to enhance information in relation to a greatly increased of significant saving of Energy and Matter. In fact conventional processing of production creates till now many by products which add the costs of purification and pollution control. However high specific study of catalysts for nanoscale fabrication-technology, in emulation of some biological enzymatic capabilities of natural production.
Hence nanotechnologies will lead to a better information management for a large scale of nanostructured materials which would eliminate a great part of mechanical moving parts and as a consequence will obtain less energy consumption..
Efficient energy conversion is coming out from the recent studies of molecular catalysis process engaging new opportunities of " no thermal and mechanical " nanofabrications. In this field "PFE" can be a cognitive guide opening a new scenario of S&T development and this would be important to limit the imminent collapse of mechanical industrial production,

due to the exhaustion of critical resources. In fact " PFE " addresses to No thermal energy usage, so that it become possible to better understand the change of mechanical technology, via nanostructured devices as for instance through the extended use of fuel cells. Hence the Project MEI-ONNS can sustain, by means an suited cognitive innovation studies about the contemporary need to enhance molecular catalysis research, for obtaining an high selectivity of nano-bioproducts, and other applications of molecular nanotechnology.
This forecast fir a sustainable future can generate a new age of social and economic benefit for maintaining the standard of living much longer that with the use of grossly inefficient mechanical technology.

e) Rationale coming from the origin of life and advanced biology and related questions in biotechnology and bio-semiotics and bio ethics for future orientation of the exchange of information among different levels of living system.

The challenge about the value of the contemporary change of science and society paradigm regard essentially the concept of Biological information The importance to understand better the fundamental conceptualization of Molecular Life Origin allows to investigate the relationships among "Matter Energy and Information" to reply to the ultimate question 'What is Life?'. Bio-chemical evolution that led to the origin of life is an important study to understand the catalytic behavior when small organic molecules, like amino acids, could accumulate in the pores of a zeolites for assembling them into proteins and protecting them from destruction by the sun light.
Those studies can generate an important impact factor also for contemporary planetary change and for opening new imagination and strategies of the future improvement, oriented by human knowledge, for expanding the living system in the other planet of Universe. Besides the MEI-ONNS project would like to develop a strong integration between the new perspectives and approaches of Biology and Biotechnology, starting from the fact that the DNA linear dogma nowadays is considered an over-simplified schemata because the differences observable at all levels of biological organizations are strongly dependent by adaptation to information assuming an epigenetic functional characters.
Extremely different organisms born in Nature from very similar genomes, hence it is difficult to justify the linkage between genes and phenotypes, because genes do not control the complex regulation of epigenetic informational traits. So that today a critical component of the construction of the MEI Paradigm can be run in parallel with significant challenges of the change between mechanical science and living science innovative paradigm.
Certainly new perspective and approaches on living science, and to advancing in bio-technology, are becoming from the fact that it is no more possible to consider sufficient to give as a unique reply that the biological evolution, as it would be dependent only by a Darwinian selectivity of the environment. Hence the proposed construction of a new MEI-paradigm can bring a clash of civilization based on the perspectives of changing the long-standing problem in life sciences understanding.
A simulation of cultural dynamics based on the reorganization of the cultural and scientific MEI-paradigm in biology, can explore neo- darwinian models of co-evolution that can be useful to increase a more conscious productivity of advanced bio-technology. In that context assumes a great importance the bio-semiotic interpretation this because the life sphere is permeated by sign processes (semiosis) and communication signification So that starting from the consideration that all cells and organs and organisms are born and evolved into a semiotic-sphere (i.e. a world of signal processing and communication transfer), it is possible to apply the "PFE" to forecast the catalysed activity of Information

obtained through contacts, touch, sounds, odors, movements, colors, electric fields, waves of any kind, chemical signals and messages etc... etc...
From this point of view hence it is possible to develop a cross disciplinary research activities focused in particular on the BIOSEMIOSIS of STEM CELLS, to study the way of better understanding the differentiation of the semiotic-sphere of primary cultures of stem cells. This approach will be important also for giving a excellent contribution to the Bio-Ethics.
In fact such hypothesis can be useful for mastering a model of information- communication in nature, in a way that can be better understandable the differentiation constraints of specialized cells. Hence this bio-semiotic approach will be useful to explain in which way the embryological cells are forced to occupy specific semiotic niches in order to survive in the context of the more complex semiotic- sphere of organs and higher organisms and as a consequence this cognitive analysis will open a new perspective in the civil society to bio-ethic's debate about stem cells research and applications. In conclusion through the proposed cognitive analysis would be possible to recognize, that in a transition age, an improved dynamic change of culture is characterized less by the extent of its knowledge than by the innovative cross disciplinary nature of the challenging critical questions that the MEI-ONNS activities would be able to put forward for getting a cognitive anticipation on Living Science Understanding.

***f) Rationale for the forecasting of the future Dynamics of Intellectual and Social capital in relation to the un-tangible products & process for the Knowledge Economy European development*.**

The rationale of this section of the MEI-ONNS project on cultural dynamic, would describe the interplay between innovative management in Science and Society cross disciplinary integration. As a matter of facts the future intellectual employment will be engaged into a complex networking dynamic environment driven by the scientific and technological advanced of the productive global society.
Therefore as before envisaged, the PRINCIPLE OF EVOLUTIONARY FERTILITY "PFE" can be a theoretical pathfinder to understand the complemented innovation of Science and Society that varies the international division of labor In this dynamical global situation can be considered a general need to go towards a new integration of S&T culture driven by Information Technology of Communication (ITC) in a way that ITC will be able to develop an innovative management of Intellectual and Social Capital, putting in a better understanding the main profile of Knowledge Economy contemporary evolution. In this context Intellectual Capital as well as Social Capital are new resources derived by the changing relationships in the aggregation of networking business affiliation or in social community, both based on mutual acquaintance and shared recognition towards the dynamics of changing in economic global sphere.
Therefore the MEI-ONNS would approach an evolutionary developmental modelling of future perspectives of European Knowledge Society based on an interactive networking communication management in Science & Tech. & Society (S&T&S).
This approach would be useful for sharing advanced cross-disciplinary knowledge about critical success factors of the better desirable future of knowledge economy looking forward to about eight year time. This MEI-ONNS cognitive forecasting approach can provide new opportunities of e.learning in management for intellectual and social capital innovation, focused on the economic and social consequences of the increasing transfer of industrial society in the direction of the emerging developmental countries and on the consequent European need of accelerating the rise of European Knowledge Economy The last challenge is well posed together the following thematic European priorities:

a) Information Society, under the heading of Future Emerging Technologies, and
b) Sustainable development in economy and ecology, for improving a new division of social labor, giving working opportunities to intellectual labor and enhancing intellectual creativity.

In conclusion looking to those cross-disciplinary rationales it will be possible develop cognitive evolutionary models about the great amount of possible application of the MEI ONNS project idea, to realize a strategic thinking process for a sustainable future based on the application of the Principle of Fertile Evolution, that it will be operate as a transmission of cognitive change to innovation. In fact PFE in the near future can be seen as excellent pathfinder of S&T sustainable development, this because on the basis of that ecologic and economic guiding principle it is possible to forecast more clever planning of Science & Society going beyond the disciplinary boundaries of the classical disciplinary fragmentation of knowledge.
In fact the rationales of advances knowledge, if successfully addresses to anticipate the paradigm shift and to prepare for a knowledge innovation driven society, definitely would improve more understandable trends of Knowledge Economy development. Hence the MEI-ONNS activities developed for put in understanding the better key- trends reshaping future research and economy, can increase European competitiveness, reducing Energy and Matter burning up and developing powerful strategy of post-industrial innovative features in coherence to generate knowledge innovation and creativity in business innovation and ion the future sustainability of our own quality of life. Therefore at moment the expectation about the potential benefits of the MEI ONNS project proposal are sufficiently large to justify the level of risk of the project.
For that reason the project objectives will be positively achievable within the MEI-ONNS proposal because they are challenging but not unrealistic goals because they belong to an large series of advanced scientific and humanistic research where the results can be stated in a measurable and verifiable form.
The progress of the project work will be focused in the integration of science & society innovation in relation to the cognitive progresses of European Knowledge Society that will be assessed and measured against these goals during the working plans of the project.

B.2.2 – Societal and Policy Relevance –

The Societal and policy relevance will be obtained as a result of the previous analysed areas of interest in a way to extract the most essential cognitive integration that will be the utilised for generate e great impact to the dynamic of conceptual change in favour of the future development of the European Knowledge Society. As a matter of facts the MEI-ONNS project would improve knowledge creation in a Science and Technological based economy, tacking into account the emergence of new problems of social and environmental change.
In particular to optimize the societal and policy relevance of the MEI-ONNS activities, will be an important application of forecasting of content based research changes to enable future cross-disciplinary research strategies, and innovative educational performances based on “e.-learning” interactive plans of advanced brain’s education.
The MEI-ONNS will launch a test campaign to verify the social and political relevance for enabling further pursuit of the important “PFE” principle and their connection to better understanding the development of European Knowledge Economy In particular the e. learning strategy be focused to connect brain processes scientific research to educational policies and practices. So that the educational perspectives of contents innovation will be an important application area of the MEI-ONNS Project relevance.

In the current age of living quality research, knowledge society development is looking to neuroscience, genetics, and cognitive science integration to inform and improve new strategies of brain based education in a way that the applications of such research findings will be able to rise the potentiality of brain functioning towards an more intelligent behavior of people.
Henceforth to create better research and practice on this cross-disciplinary field the "Open Network for New Science" (ONNS) would like to build a reciprocal relationship between educational practice and research on learning and development, in a way that it will be analogous to the relationship oriented by the "PFE" pathfinder principle, previously described
This section of the MEI-ONNS challenge is fostering collaboration among interested social scientists, neurologists, biologists, cognitive scientists, and cross-disciplinary sciences findings to educational practice in order to discuss and assess the scientific advanced being and its relation to educational innovative practices. Science of future generations will believe to the ability to identify and sharing important directions of the emerging trends of societal development, obtained connecting a deep interaction between science and education research and practices.
So that the Project MEI-ONNS would act in preparing young researchers for delineating the implications of the advanced research and educational innovative practices, in a way that can be directly linked to the policy strategies about European new economic productivity and competitiveness. In this interactive networking relationship, cross-disciplinary research informs educational practices, and simultaneously Educational practice re-informs research by mediated by a global communication network. This interactive strategy will aid broad range of practitioners, scholars, and policymakers as they seek to apply findings from cognitive and social neuroscience to e. learning practices in a concrete way. The research community will benefit through the dissemination of models of successful educational interventions related to cognitive neuroscience and hopefully through establishment of models for practice-based research on cognitive and brain processes.

B.3 Potential impact

B.3.1 - PotentialStrategic impact on new developments in science and society

"A paradigm shift is that produces new behavior in terms of the scientific view of the world". This sentence is written by Thomas Kuhn, we know that each historical cognitive paradigm specifies what are relevant questions and acceptable correlative interpretations in relation to the historical conditions of the complex development of Science & Society. The previous remark recognizes that any conceptual paradigm controls the underlying assumptions of culture and science of each productive epoch of developing societies. Hence the new paradigm of science cognition need to be invented when the development of society finds itself in a difficult crisis.
More than 65 years ago "Limits to Growth" of Club of Rome (1972) put a finger to the global industrialization crises. As a matter of facts during the entire industrial society epoch, Energy is used grossly, without a great efficiency because it is largely used as heat, following the mechanical interpretation of the thermodynamics, i.e. limited to engine thermal processing of "Energy-Matter" transformations.
As a matter of facts burning Matter is able to develop energy as heat and this transformation wastes most of the Energy power, extracted from Matter. Henceforth the need of utilizing Energy without thermalizing matter, requires a deep conceptual change in science & society focused on intellectual and social capital innovative "science and society management" in a way that will be possible to go beyond the Industrial society

conceptualization of thermodynamics and improving a new perspective on living sustainability of the Knowledge Society development At this stage of the transformation of industrial society in a post industrial one, progress of industrial society gives too high environmental impact. Therefore today the environmental and social impact of deliverables from the conceptualization of mechanical paradigm get a lot of living risks including bio-pollution and the progressive destruction of bio-diversity etc….
Therefore mechanical sciences today are viewed with general suspicion, by the popular understanding of citizen. Hence to promote a better public understanding of Life sciences the Project MEI-ONNS would like to start forward a deep cross- disciplinary reflection for improving new paradigm of Life Sciences for getting a great potential impact to the improvement of a new link between conceptual Science innovation and the European Knowledge Society development. Therefore a wide beneficiation impact is expected from the MEI-ONNS Pathfinder Project on Cultural Dynamics, because will be oriented to enhance future science and society on the basis of the "Principle of Evolutionary Fertility" ("PFE") that is a theoretical guide for advanced ecological and economical new productive system. In fact energy cannot be in future so largely used as heath from burned materials though mechanical technology, so that the "PFE" can be e guiding principle for "Going beyond thermo-dynamics". In fact the only way to invert the "entropy growing" generating the contemporary environmental diseconomies through conventional thermal technology, can be obtained by a deep improvement of intellectual and social capital able to anticipate a strategy of advanced research development for a better use of information. As a mater of facts today intellectual and social capital management can improve non heat consuming fabrications as for instance the high specific molecular nano-technology and the high selective catalytic biosynthesis, etc.. etc .. because this innovative system of non thermal productions are information intensive and they can be better understood by the general application of the "PFE" principle and the forecasting activities improving the<M/E/I > paradigm.

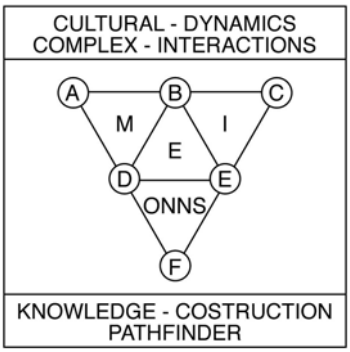
B.3.2 – Innovation Related Activities and exploitation and dissemination plan

As a matter of fact the MEI-ONNS Pathfinder Project, on Cultural Dynamics, starts to clarify the scientific paradigm operating among the fundamental categories Matter, Energy and Information, in all processes of working in living systems and in society. This premise will be important as an cognitive starting up to meet the future directions of a cross-disciplinary research in various fields of science and society.
Henceforth the Project proposal represents an important discontinuity between the mechanical model of the traditional science and the objectives of the frontiers of living and social sciences of the future knowledge driven economy. Therefore the project proposal plays a pivotal role on a large scale of promising and urgent exploration of research innovation activities and enhancing a cultural change dynamics in Europe.

As a matter of facts the great impact of the project is a consequence of the possibility to enhance a most successful research and development aiming to overcome the crisis of the Industrialized Society that has quite exhausted its Matter-Energy resources and at the contrary to enhance a knowledge creation method towards an accelerating rate to innovate and invest in research and education to prevail over the emergency of cultural change exacerbated by the contemporary competitive globalization of the industrialized economy. Therefore "PFE" is becoming a pioneer cognitive pathfinder to help researchers educational and policy decision makers and common citizen to be conscious of the discontinuity from industrial culture and the development of a new scientific and social paradigm based on evolutionary cognitive development.

As a consequence the key risks of the MEI-ONNS project are focused on the difficulties to overcome the cultural resistances in maintaining the disciplinary fragmentation in science and society that remain as a condition of opposition to a dynamic change of the Industrial society cognitive organization. In spite of this academic endurance the Innovation Related Activities and exploitation and dissemination plan would conduct to a result of bettering the understanding of the strategic socio-economic needs in certain critical cross disciplinary "S&T&S" areas.
Therefore the MEI-ONNS Pathfinder project activities could form a precursor to concentrate conventional funding opportunities to join in an integration between living sciences and social sciences. In that way would be possible to improve an innovative performance focused on Strengthening the European Research Area to a better integration of cross-disciplinary "networking research " aggregated in European Priority Areas.
As a matter of facts MEI-ONNS on going and final project's results if successful, would come out from highly challenging objectives in emerging scientific and technological fields.Therefore the project implementation need to involve a large amount of research groups of stakeholders working in complementary projects.
To fulfil this goal it will be of decisive importance a continuous MEI-ONNS dissemination plan for implementing their shared exploitation. Therefore the dissemination. Dissemination Plan, will be preferentially based on a **"Knowledge Construction Portal" (K-PORTAL** written in English) and will be sustained by various "**special public events**"; the last would be organized in each nation of the partners. The " KNOWLEDGE CONSTRUCTION PORTAL" will be organized as a vehicle for reading the draft and final results of the MEI-ONNS project and to open a very large debate with the European researchers of other programs and to enlarge the participation of stakeholders to an international level. The knowledge portal will be open to the public also after the conclusion of the Pathfinder project.
This portal will be a cognitive resource about cultural change needs and practices for scholars, policymakers, and practitioners, to learn about and discuss the challenges on science and humanities and improving a cognitive anticipation on Living and Social Science Understanding and developing future research in cross-disciplinary interactive relationship with educational practice and policy.

B.3.3 – Project European Dimension and link with other researchers.



- ***A) Emergent Science & Society changes***
- ***B) Knowledge Based Economy***
- ***C) S&T Innovation Policy***
- ***D) Social Change Dynamics***
- ***E) Ecosystem dynamics***
- ***F) Cross –Disciplinary knowledge creation***

Thereby the construction of cultural system dynamics model (F in the upper figure) will be applied as well as a predictive simulation to a number of detailed case studies. Hence a great potential impact will be a result of the complex interaction and links with other researches concerning the general issues from A to E of the previous figure This cognitive forecasting and assessment will be realized at the European dimension during the exploitation and dissemination activities, In this way the MEI-ONNS Pathfinder project could form a precursor to anticipate more conventional funding opportunities in the seven framework program for improving an innovative performance of knowledge construction. The dissemination and exploitation plan of the MEI-ONNS project will be supported by the following activities oriented to improve a fundamental change on intellectual management and overcome the disciplinary cultural barriers resistances to understand the post industrial dynamics of knowledge innovation:

A) Special Public Events, on various issues based "Change Management and Knowledge Construction "will be organized as well as International Seminars (in presence end in web-real time communication) by the partners aiming to empowering researchers to optimize a profoundly impact of future direction on Science & Society.. The key words of those Events can be the following : "Forecasting road mapping of European Research in science and society ", "Scenario of science in the global developmental Society"; "Future studies on management change" " Going Beyond to Thermodynamic paradigm" … and so on. On the basis of those key words those "special public events" results will be transferred in a booklet and a CD Rom that will be published and distributed with a Six months cadence about the general issue : "Creating Cross Disciplinary Knowledge Trends for the Future" This booklet's series will be also diffused by Digital Technologies in the WWW (Knowledge Portal, Blogs, on line newspapers etc..), especially realized to attract young researchers but also any one interested how future research thought will impact individuals, organization and government.

B) Launch of a specific Test Campaign.

The agreement to the proposed "intellectual management innovation" and to the method for improving "cognitive forecasting research", will be tested by means by an appropriated methodology of inquiring on the issues related to the dynamics of "Intellectual and Social Capital" and to Cross-Disciplinary Research" in S&T European policy.
The tests sheets will be disseminated in each partner country and will be addressed to the following targets : young researchers, political and decision makers, emergent community of research in the advanced fields of science and society, as previously described in the rationale of various advanced research fields regarding the contemporary emergence of the new paradigm on science and society. The Tests will be organized in two parts :
a) a set of questions aimed at strategic science & society managers on research and education ; b) a ser of questions directed to the young researchers and citizens
The results will be published and disseminated in the K-PORTAL and in a paper booklet.

C) Developing and testing " e. learning strategy" on knowledge creation for knowledge workers.

Since in the knowledge economy development knowledge workers represent an educational innovation priority to favor an effective additional value for improving research and business integration . Therefore the MEI-ONNS proposal would stimulate an "e. learning" management strategy to support the following criteria :
1) To favor an innovative methodology of cross-disciplinary knowledge construction

2) To hold up creative managerial networking styles more adequate to live in a dynamics of cultural change to innovation.

D) – Realizing an innovative KNOWLEDGE CONSTRUCTION PORTAL open to the link to other European and Trans European researchers.

The "K-Portal" architecture will be realized aiming to get a great participation of researchers in all the advanced field of research previously described in their rationales, in a way to enhance an European cross disciplinary collaboration of on the knowledge innovation construction on the basis of the change of the science and society paradigm.

The diffusion activities of the MEI-ONNS K-Portal will be focused on:

1) Facilitate a networked organizational intelligence of knowledge management based on the described perspectives of the change of science and society paradigm.
2) Organizing an on line bibliography and web-publication on the knowledge construction spectrum to favor to gain conceptual innovation about the cultural change dynamics and in this way to obtain a self –organized knowledge innovative background as a driving force of European competitive advantage in the global knowledge society. .

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