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Greece's Path to the European Knowledge Society

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Background

In the context of its four-year work programme, *Analysing and Anticipating Change to Support Socio-Economic Progress 2001-2004*, the European Foundation for the Improvement of Living and Working Conditions launched EUFORIA - a project on 'European Knowledge Society Foresights (KS foresights) for living conditions, working conditions and industrial relations'. The purpose was to understand the 'drivers' of the Knowledge Society and to anticipate their potential impact on living and working conditions and industrial relations. The underlying aim was 'to identify and support paths to positive transformation while avoiding unsatisfactory development paths'. Especially in the case of Greece the development of a knowledge society is considered a major challenge due to the country's lagging behind in terms of technological development and the knowledge society indices.

Towards a Knowledge Based Society

EUFORIA was launched with the aim of:

- Identifying and analysing drivers of the Knowledge Society in order to understand the transformation from the Industrial Society to the Knowledge Society.
- Anticipating the scope of this transformation in order to analyse its impact on living conditions, working conditions and industrial relations.
- Helping decision-makers to identify positive trends to support as well as pitfalls to avoid.

EUFORIA included in its approach, a series of detailed pilot foresight exercises in Finland, Germany and Greece that were intended to identify the degree of advancement of a Knowledge Society in each country and major trends characterising the country's course of development, as well as to formulate specific scenarios for paths towards the Knowledge Society. The Knowledge Society and the Lisbon objectives are goals to be attained in a European context of ageing populations, low birth rates and different educational and organizational systems, some of which may not be well suited to knowledge diffusion and exploitation. In add to this Europe presents a great variety of economic environments, labour markets as



well as working and living conditions. It is clear that novel approaches are needed that combine the rules of the free market with social and economy and responsibility. These are the primary challenges for Europe along with the creation of conditions necessary to ensure sustainable development.

The 'Knowledge Society' is still a vague concept: Different interpretations fit different socio-economic environments and despite discussions held with Greek experts and with others at European level, a common definition does not yet exist. Knowledge may be clearly defined but when it comes to knowledge-based society or economy and even more to a way towards the development of such a society, a clear and commonly accepted definition may be more limiting than useful and so it is doubtful whether a commonly accepted definition can, or even should be reached.

Each Nation follows its own specific path: The EUFORIA project indicates that different paths can be followed for the development of a country. That different degrees of development exist among countries does not necessarily mean that paths taken in the past were wrong. Nevertheless a path followed that does not allow for the positive integration and exploitation of the country's culture, specificities and strengths is not an effective one.

In this framework, different models of the Knowledge Society can be developed. The Knowledge Society is not dependent only on the use of ICT or the presence of high-tech sectors in the economy. While these may facilitate the development of a knowledge economy, a series of other factors should be in place such as education, training and organisational systems that promote the creation and diffusion of knowledge, as well as working and living conditions that require the advancement of knowledge and the intellectual development of citizens.

The Main Challenges to be Faced

An analysis of the current situation based on EUFORIA Knowledge Society 'advancement' indicators indicates that Greece lags among the EU member states and ranks far below the EU-15 average on nearly all aspects of the Knowledge Society.

Greece - a typical Mobile Phone Society: Like most Southern European countries, Greece has very high rate of mobile phone usage but very low internet access figures. Use of the internet however is expected to rise due to decreasing costs and the provision of specific public services such as TAXIS net as well as through measures of the Operational Programme for the Information Society which reflects a major emphasis given by Greece to the creation of the Information Society.

Education not Meeting Market Needs: Education systems gradually change with the introduction of new technologies, especially information technologies. The biggest problem faced by the educational system in the development of a knowledge society is the lack of long-term planning and the

lack of coordination with market needs. This was highlighted in the latest policy documents in Greece along with a need to promote life-long learning and vocational training. That part of the Greek workforce that has received tertiary education (25-64) in Greece is close to the EU average as is the pupil/teacher ratio especially in primary and secondary education.

Catching-Up: In 2002 Greece was considered one of the fastest developing economies in Europe. Since 1995 GDP growth has been over the EU average as has the growth rate for labour productivity. For most of the 1990s, the growth rate of 'knowledge intensive' investments such as RTD, software and university education was one of the highest in the EU. RTD intensity though lowest in the EU in 1999, has experienced the highest average annual growth rate in Europe since 1995. Business financed RTD as a percentage of industrial output was also lowest in Europe in 1999, but it too experiences one of the highest average annual growth rates in Europe. Similar claims can be made about the number of researchers and new PhDs as well as the number of scientific publications, EPO and USPTO patents.

Advanced Technologies in Education: Despite these high growth rates, the starting point is often very low and Greece remains in the low position compared to the rest of the EU Member States. The international competitiveness of Greece still lags behind not only 'highly developed' countries but some of the newly associated EU states. On the other hand the Technological Achievement Index places Greece among the 'potential leaders' in 2001. Greece has a long way to go in exploiting the opportunities offered by ICT, the provision of enabling factors such as network access, network policy, networked society and networked economy, as well as in tackling general scepticism concerning the internet and doing business on line.

Skills and Employment Suffer from Digital Divide: A high level of unemployment coupled with the limited flexibility and adaptability of the labour market, as well as limited provision of and participation in vocational and self-training activities are areas that need attention. The same applies for the 'digital divide' issue as well as for income inequality, low birth rates, ageing of the population and the increasing number of immigrants that are not fully integrated in the Greek society.

EUFORIA Greek National Centre

It was decided at the start of the project to create a **EUFORIA National Centre** including representatives and stakeholders from all the areas examined under the project. This Greek National Centre consisted of representatives of the General Secretariat for Research and Technology at the Ministry for Development, The General Confederation of Workers of Greece, as well as the Industrialists' Association from Northern Greece, Researchers, Scientists and Academics. A first consultative round aimed at **identifying the major trends** characterising Greece's development and formulating specific Delphi

statements. Assistance was also sought for the identification of other experts according to the specific requirements of each workshop and the **Delphi Survey**. For the identification of these trends a **SWOT analysis** was also implemented. A second round of consultations aimed at developing **specific scenarios** for possible paths towards the Knowledge Society. The **Delphi survey** was advertised during the International Foresight Conference that took place under the Greek Presidency at Ioannina in May 2003 and ATLANTIS members attended all the conferences organised by the **National Technology Foresight Programme** to keep track of progress and anticipated results, to ensure synergies between the two initiatives. Members of the Greek National Centre offered further support for the dissemination of EUFORIA results and their combination with the results of the National Technology Foresight Programme.

Socio-Economic and Technological Trends for Greece

Some of the most important **socio-economic and technological trends** identified for Greece are as follows:

- **Education:** The Greek system is not built around the 'idea' of lifelong learning or knowledge management and creativity. This results in the production of 'less competitive' graduates than other countries. The development of private non-profit bodies for the provision of higher education could increase competition, improve the quality of the education in public universities and orient them towards the fulfilment of market needs in terms of specializations and skills.
- **The Ageing Population and Retirement:** The ageing of the population is linked to the ability of the public health system to cope with increasing demand for health care and medical treatment. A constantly increasing retirement age in combination with possibilities for part-time occupation will result in the appearance of new forms of work after the age of 60 or 65 - part time occupation in the same field, as well as 'alternative' or 'social-voluntary' occupation. Some people may continue working. This life-long working will be supported by lifelong training. Others may be excluded from work after the age of 50 for a variety of social reasons. This may result into the appearance of new categories of employees, unable to be insured or retired.
- **Peripheral Disparities:** Peripheral disparities in Greece hinder balanced development of the Knowledge Society. Large urban areas will develop faster because of their better infrastructure and access to human resources. The rural, mountainous, frontier and island areas will lag in their development. The unbalanced 'territorial' distribution of people of different ages and incomes will lead to unbalanced development of the Knowledge Society in Greece. Alternative forms of tourism in some rural and mountainous areas could lead to the development of poles of attraction not just for tourists but for tele-workers, boosting quality of life in these areas.

- **Industrial Relations:** Industrial relations and working conditions in Greece do not promote the development of the knowledge society and the economy.
- **Quality of Life:** Changes in the type of work and working conditions related to the Knowledge Society will cause changes in the personal life-styles and family structures. Our society has become a 'show-off' society in the sense that what is not promoted has no value. Mass media contributes to this by creating consumer models based on 'fictional' needs. This may hinder the development of the knowledge society.
- **Economic Factors:** The 'dualism' that characterises the Greek economy will be intensified as competitive enterprises constantly improve their performances at national and European level, while 'traditional' and less competitive ones struggle to survive. The development of new peripheral markets in the Balkans, Eastern Europe and the Mediterranean may alter the orientation of the Greek enterprises. Some will exploit availability of cheap labour to become more competitive. Others may cover 'non-competitive' markets that can be served by products and services of low quality. These strategies run against the trend of the emergence of a Knowledge Society.
- **Governance Policies:** The 'conservative' organizational culture characteristic of areas in Southern Europe and in Greece will widen the 'distance' between management and employees, hindering timely exchange of information and the production of knowledge. On the other hand e-governance enhances transparency in the procedures concerning the relationship between the citizens and the state and may contribute to the decrease of the population moving to the urban areas.
- **Data Security:** The use of new technologies is restricted by concerns of civilians regarding the protection of their personal data, their right to privacy especially at work, the inadequacy of the legal framework concerning IPR protection and a tendency towards political control of the information.

The Drivers of Change

The key issues raised with relevance to policy making are as follows:

- Greece should invest more in the field of **human resources**. Special emphasis should be placed in the differentiation and quality of products and services, education and training, health and tourism through the application of new technologies that will help improve competitiveness and quality of life so that quality of life.
- Innovation should be promoted as a major political target and as a major pre-requisite for development at all levels – the state, the economy and society. The creation of an **environment conducive to innovation** and entrepreneurship that shall favour the development of new ideas and risk-taking should also be promoted.
- It is necessary to promote the **collaboration between research and industry**. This could be achieved by ad-

justing the way knowledge is produced, used and diffused by Research and Educational institutions as well as enterprises and organizations, according to the characteristics of a Knowledge society; this way, the demand for training and life-long learning will be initiated from the 'basis' and the 'supply' shall meet the market needs.

- The **social partners** should reconsider their role. They should consider new emerging forms of work and types of employees and strengthen their participation in the formulation of work related policies.
- All the **ministries** should engage in the coordination, evaluation and control of the effectiveness of their activi-

ties and the measures and actions taken in all policy fields in the pursuance of the commonly agreed vision.

- The **private sector** should reconsider their role in terms of responding to the growing importance of innovation and differentiation of products and services to preserve and strengthen their competitive advantages.
- Measures should be taken for the positive **integration of the immigrants** and foreigners in the Greek society.
- The **Greek Diaspora** as well as foreign and local investment can play an important role as a resource to attract business and scientific resources located abroad.

A Greek Awakening

The drivers and trends that characterise the development of Greece are not all contributing to the emergence of a Knowledge Society. Nevertheless one possible future scenario that has been identified is the optimistic 'Awakening' scenario, although it is unlikely that this scenario will unfold until before 2015. This development path is characterised by an 'awakening' of the Greek state and Greek society to the understanding that growth is not going to last unless the conditions to ensure sustainability in development are in place, and until a new orientation is defined and followed. An 'aggressive' and commonly agreed vision for an 'awakened' Greece in 2015 needs to be developed based on the concept of quality of life, which has to be integrated in every-day living. This model of a Knowledge Society requires a re-orientation of policies, careful design and ensured effectiveness of measures. It will require radical social change and strong political will. Although it was considered the least realistic in terms of realisation till 2015, it was also believed to be the one that would put Greece on the path of sustainable development.

EUFORIA and the Greek National Foresight Programme

The EUFORIA initiative in Greece was fortunate to run in parallel with the National Technology Foresight Programme. Although different in scope and orientation, this managed to raise interest in the use of foresight exercises among the members of various 'expert' communities. The decision to use the National Foresight Programme scenarios as one set of inputs for the EUFORIA scenarios and to include in the national EUFORIA expert team, people directly involved in the National Programme, resulted in achieving substantial synergies between the two programmes and increasing the impact of EUFORIA. The EUFORIA report for Greece was presented to all the members of the work groups of the National Foresight Programme together with other presentations about the Knowledge-based Society and Economy. It was taken into consideration as part of the basic documentation prepared for two new 'horizontal' working groups in the National Foresight Programme – 'Science and Society' and 'e-Governance'.

Sources and References

See the Website at <http://les.man.ac.uk/PREST/euforia> and the EUFORIA Greek Final Report 2004 by E. Amanatidou, T.

Damvakeraki and F. Psarra and available at http://www.eurofound.eu.int/areas/industrialchange/knowledge_society.htm

About the EFMN: Policy Professionals dealing with RTD, Innovation and Economic Development increasingly recognize a need to base decisions on broadly based participative processes of deliberation and consultation with stakeholders. One of the most important tools they apply is FORESIGHT. The EFMN or European Foresight Monitoring Network supports policy professionals by monitoring and analyzing Foresight activities in the European Union, its neighbours and the world. The EFMN helps those involved in policy development to stay up to date on current practice in Foresight. It helps them to tap into a network of know-how and experience on issues related to the day to day design, management and execution of Foresight and Foresight related processes.