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The Futures Project

Overview

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Table of Contents

Introduction.....	2
Knowledge, Research and Technology.....	2
Production and services competitiveness.....	4
Employment.....	4
The approach.....	5
Working procedure	5
Objectives of the Panels.....	5
Output	8
Work in Progress	10
Annex I.....	11
Annexe II	13

Introduction

The technological and political landscape of Europe is undergoing a profound and dramatic change. Information and communication technology (ICT) is developing at a ferocious pace. ICT and other scientific advances are transforming the way we live and the way we work, while the single currency, the enlargement of the EU, and the wider context of globalisation are transforming our economy. (see Figure 1)

All these factors pose enormous challenges to the social aspirations and the democratic ideals of Europe, and to the prosperity that underpins them. The Futures Project aims to address some of the questions raised by these developments. Particularly those which focus on the policies affecting technological developments, the competitiveness of the European economy and employment

Clearly, the scope of these changes is too great for all aspects of the policy challenges to be examined by the Futures Project. For this reason, the project concentrates on policy implications in the following three main areas:

Knowledge, Research and Technology

Rising knowledge intensity is a key trend in many economic and social arenas. Products and services increasingly embody formal scientific and technological know-how. Production processes and work are becoming more knowledge-based. Many goods and services call for sophisticated consumers with a high degree of technical know-how to get the best out of their purchases.

The project will look at the policy implications of knowledge intensive growth in Europe especially with regard to support for the science base and research and technological development, but also in terms of the need to widely diffuse a knowledge culture via educational and training systems.

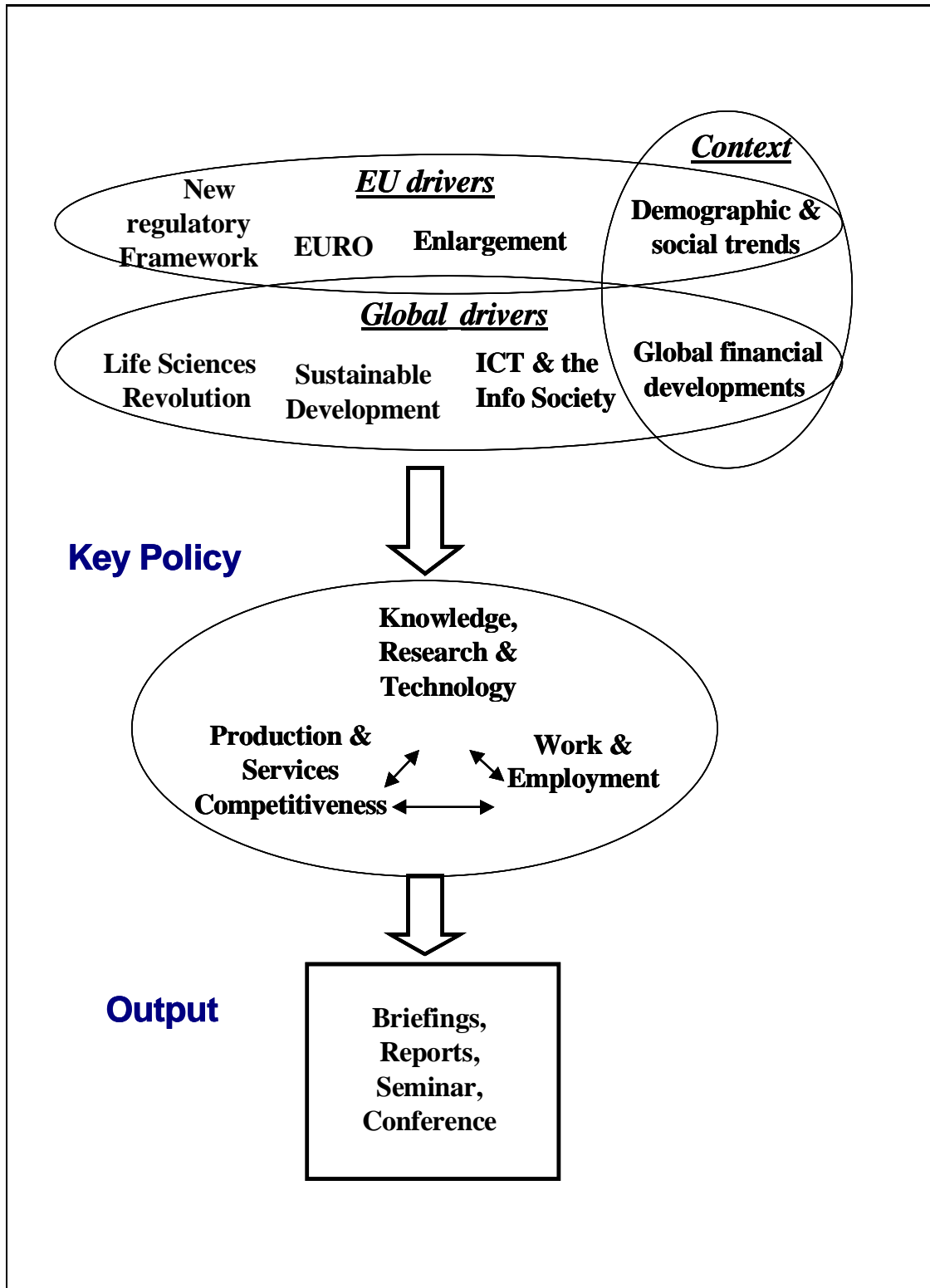


Figure 1: The Structure of the Project

Production and services competitiveness

Business practices in private enterprise are changing. The sources of competitiveness and growth now lie decisively in service-intensive activities. There is a strong tendency for businesses to devolve non-core activities and to thus increase the importance of linkages between firms. Networks of what are quite often small firms are able to compete effectively with bigger integrated conglomerates. Locational forces for the different components of complex systems of production and services will allow for very different forms of enterprises. Among the issues it needs to identify the driving forces behind the development and location of the different components of the production systems in the next decade.

The overall aim is to anticipate the policy requirements of this emerging 'knowledge economy' from global to local levels.

Employment

Employment is very high on the European policy agenda. From today's prospective unemployment looks set to persist at high levels. However, long term social and demographic trends are transforming the future of work due to the ageing of the European workforce, increasing participation of women in work, rising qualification demands, high rates of technological replacement and demands for flexibility of work. It is very likely that the forms of work may change substantially in line with changes in the structure and organisation of firms. The need to re-skill and retrain is an issue which will require increasing attention.

The Futures project will focus on the aspects of European policy covering not just the 'employment' issue of creating jobs, but also the related challenge of defining socially sustainable models of education, work and living for the 21st Century.

The approach

In order to achieve its goals and objectives, the 'Futures' Project is organised as an interactive process based on expert panels and workshop, and supported by background research.

The use of experts' panels of sectoral and/or technological nature, is a common feature across prospective studies. Experts' panels are highly efficient to gather and process in a short period of time the relevant information and knowledge. Furthermore the process often stimulates the generation of new insights and creative views. However the composition of the Panels plays a major role.

The process for the selection of the panels' members started first by defining the most relevant disciplines that needed representation. Experts were identified on the basis of literature review of the selected areas. Each panel should include experts covering a wide range of fields. (See annex 1) They were drawn from industry, university, public and private sector, research institutes, as well as from the European Commission. Panel members were requested to participate in the panels on their personal capacity to avoid problems of conflicting interests.

Working procedure

Five Panels were set up. All together they covered the different drivers discussed above: Demographic and Social Trends; ICT and Information Society; Life Sciences and the Frontiers of Life; Natural Resources and the Environment and last but not least, the European Political and Economic Context..

Each panel met several times during the second semester of 1998 (see figure 2). The working method employed for most of the Panels was built around a sequence of two-day meetings, complemented by focused research work. The meetings were essentially structured brainstorming. In some cases an 'Electronic meeting system' (EMS) was used alternating between group work and electronic brainstorming. EMS is a tool that allows a rapid structuring of expert opinions by means of a network of computers linked to a central control unit which organises instant display of results, comments and voting procedures. It allows panellists to directly record issues and comments on issues proposed by others.

Before the meetings, each panellist was provided with background documents, which was used to stimulate and kick-start the discussion. These documents were produced on the basis of bibliographic research, analysis of recent foresight reports and prospective studies as well as internal IPTS brainstorming exercises.

Objectives of the Panels

The objectives of the Panels were:

- To provide a list of important drivers and issues of change in Europe for the time-horizon considered. In general, such issues were developed and specified on the basis of the expertise and/or knowledge available to each panel;
- To identify the top priority issues for each of the three policy areas;

- To develop a description of plausible and possible ‘end-states’ (i.e. mini or partial scenarios) for each of the selected issues.

In their first meeting all Panels were able to identify the drivers which were considered to be the more important ones. Furthermore many of them succeeded in specifying issues to a considerable degree of detail. Of course the quantifiable underpinning of the conclusions was more complex. As far as possible trends were quantified and or documented afterwards by the experts involved in the study.

The preparation by each panel of likely ‘end-states’ provided the inputs to the policy workshop of the Futures Project. It suggested the likely limits and ranges within which each driver could move. It suggested also points on which policy could have a major effect on developments.

The Futures Project has been guided, particularly in its early design phase, by a team of the European Science and Technology Observatory (ESTO). The team was integrated by R. Barré (OST), the project leader on the part of ESTO, I. Miles (PREST), L. Soete (MERIT), R. Smits (TNO).

The following figure describes the process and milestones of the Futures Project.

The most recent event at the publication of this note has been a Seminar (July 1999) in which more than 80 experts and policy makers discussed the results of the Panels work. The proceedings of this Seminar are being prepared and will be published in the autumn of 1999.

FUTURES PROJECT : THE PROCESS

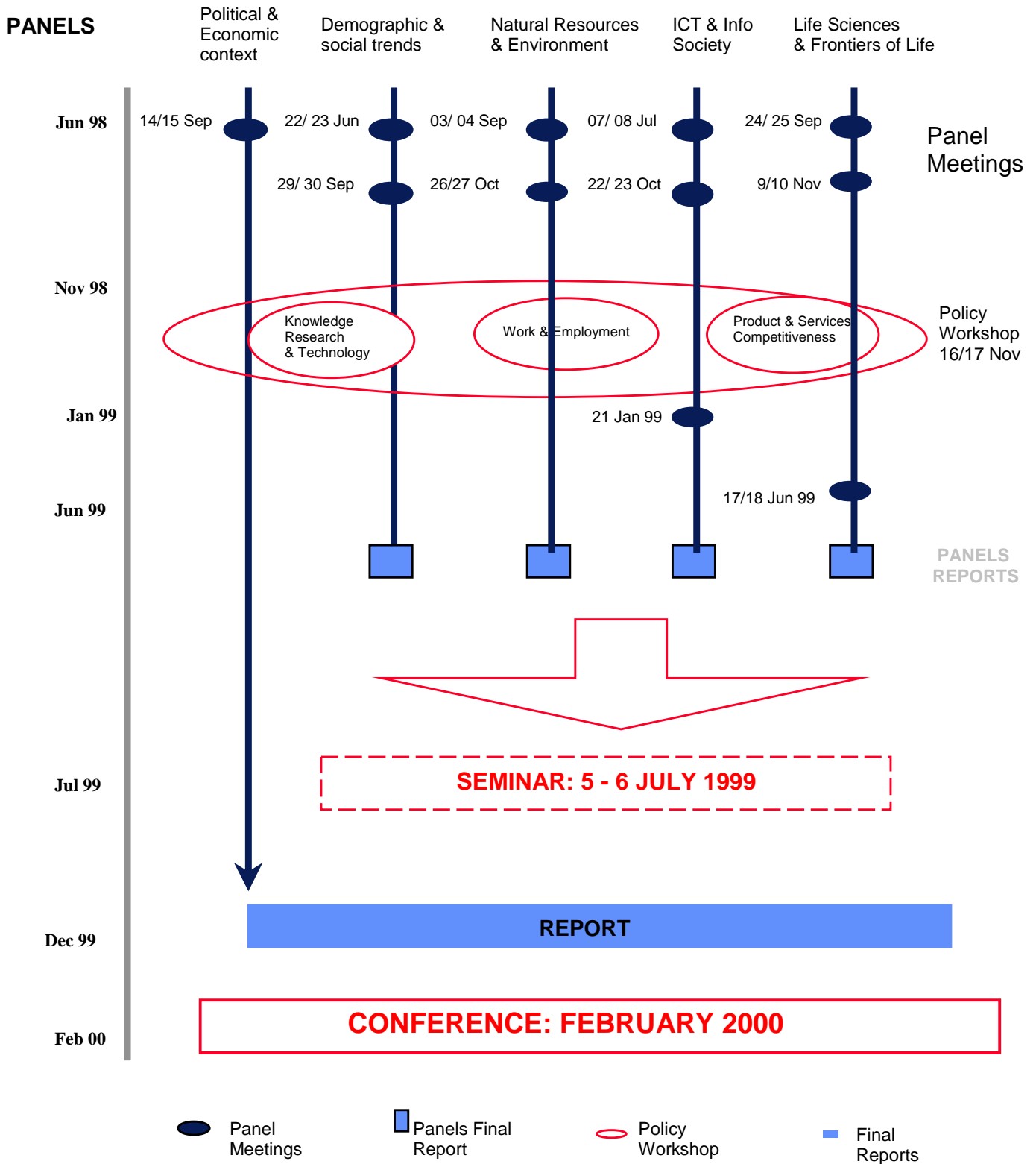


Figure 2: The Process of the Futures Project

Output

The project has developed a new line of Research Reports called the “Futures Report Series”.

The publications so far are:

(Date: September, 1999)

Title	Author	Series n°	EUR
The Futures Project: Overview	IPTS, Fahrenkrog, Scapolo	1	18731
Demographic and Social Trends Panel Report	IPTS, Gavigan, Ottitsch, Greaves (CEST UK)	2	18729
Information and Communication Technologies and the Information Society Panel Report	IPTS, Ducatel, Burgelman, Bohlin, Ottitsch, Howells (PREST)	3	18730
Life Sciences and the Frontier of Life Panel Report	IPTS, Munker, Sorup, Wolf, Ibarreta, Rosen (SAUL), Schmitt (VDI)	4	18743
Natural Resources and the Environment Panel Report	IPTS, Sorup, Gameson, Callejas, Hernandez, Kroll, Soria, Zwick	5	18790
For D&ST Panel: The Future of Education in Europe until 2010	Mercer, (Open University, Business School.UK)	6	18968
For D&ST Panel: Mosaic Living	Scase (ISER, University of Essex)	7	18969
For D&ST Panel: Europe's Changing Demography Constraints and Bottlenecks	Coomans (ISMEA, Paris)	8	18967
For D&ST Panel: Work, Employment and Welfare in 2010	Cullen (Work Research Centre, Dublin)		Internal Publication
For D&ST Panel: The Feminisation of Society	Graham (The Future Foundation, London)		Publication in progress
For D&ST Panel: Sustainable Living and Learning	Graham (The Future Foundation, London)		Internal Publication
For ICT Panel:: ICT and Competitiveness by 2010	Arlandis (IDATE, Montpellier)		Internal Publication
For D&ST Panel: Social discontinuities Possible Breaking Point in Europe	Kitzmueller (University of Klagenfurt, Austria)		Internal Publication

For E&PC Panel: Changing Requirements for European Competition Regulation	Brousseau (ATOM, Université de Paris I)		Publication in progress
For E&PC Panel: The New Economy	Soete (MERIT, NL)		Publication in progress
For E&PC Panel: Implications of EMU for Intra-European Economic Balance	Tsipouri (Athens University)		Publication in progress

IPTS has set up a Web site for the Futures Project. The site provides public access to material produced (<http://futures.jrc.es/>) .It also has a private domain for each panel that was used as discussion space.

Work in Progress

The “**Futures Report**” (December, 1999)

The Report of the project presents the challenges and options which Europe might face on its road to 2010 focusing on three policy areas: Technology, Employment and Competitiveness. It presents them in the form of “Maps”. It further incorporates some special issues which have been highlighted many times as the project developed. These issues are the challenges posed by Enlargement; the problems of how to deal with Knowledge and Learning in the “knowledge society”; and last but not least the “cost issues” and the question of redistribution of financial resources (who pays the bill). It builds on the work of the panels and in particular of the panel on the changing Political and Economic Context, (issues arising out of EMU, Single Market and Enlargement). Furthermore it incorporates the results of the debates during workshop and the Seminar of July 1999.

The Futures Conference

The results of this work in progress will be discussed in a major Conference to take place in February 2000. The focus of the Conference will be the presentation of the work done and the organisation of a high level debate on the issues raised.

Annex I

The Demographic and Social Trends Panel consisted of specialist of the following fields:

- Demographics, multi-regional demography and migration
- EU Social Policy
- Demographics of the Labour Market
- Changing nature of work and Welfare
- The future of work
- Geography of the labour market
- Business strategy, Social and Consumer Change
- Future Studies and Trend Analysis for advanced marketing
- Analysis of social unrest and discontinuity
- Industrial design – products and services,
- Sustainable development
- The future of work, employment and time-use,
- Women in Society
- Marketing and strategic planning
- Micro-social change

The Information Communication Technologies and Information Society Panel consisted of specialists in the following fields:

- Societal aspects of Communication Technologies and Services
- Microchips and flat display technologies
- Telecommunications competition
- Digital cash and electronic commerce
- Telecommunications technologies
- Teleworking, ICTs and regional development
- Sustainable development
- Information and market interaction
- Artificial Intelligent technologies
- Technology Policy and relations to East Europe

The Political and Economic Context Panel consisted of specialists of the following fields:

- Business Management
- Industry
- European integration and institutional change
- Regional economics
- International economics

- Policy of Employment
- External affairs of the European Union
- Financial and economics services of the European Commission

The Natural Resources and Environment Panel consisted of specialist of the following fields:

- Technology assessment
- Product policy and product design
- Integration of environmental concerns into other government policy fields
- Market-based policy instruments
- Eco-efficiency
- Banking and investment services
- Consumer analysis
- Environment and employment
- Business strategy
- Environmental science
- Environmental security
- Trade and competition

The Life Sciences and the Frontier of Life Panel consisted of specialists of the following fields:

- Health and Pharmaceuticals
- Agro/Food
- Environment
- Bio-informatics
- Bioprocess Engineering
- Law and Economics
- Ethics
- Social Sciences

Annexe II

**ORGANISATION CHART
“FUTURES PROJECT”**

**G. Fahrenkrog
Co-ordinator Futures Project**

PANELS Panel Co-ordinator:	“Demographic and Social Trends” J.P. Gavigan	“ICT & Information Society” K. Ducatel	“Natural Resources and Environment” T. Gameson	“Political & Economic Context” G. Fahrenkrog	“Life Sciences & the frontier of Life” P. Sorup
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