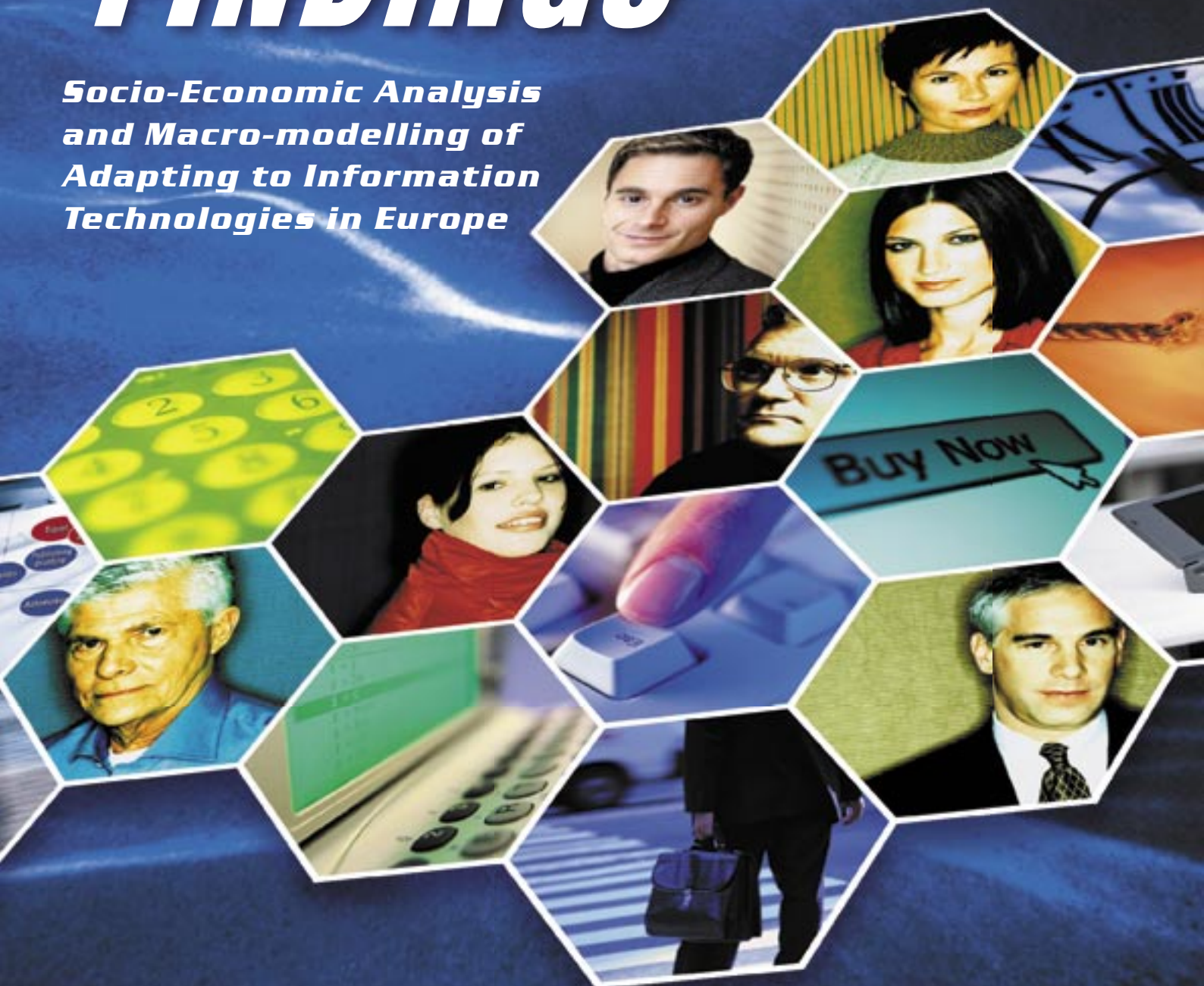


SEAMATE

Final Brochure

KEY FINDINGS

***Socio-Economic Analysis
and Macro-modelling of
Adapting to Information
Technologies in Europe***



www.seamate.net



SEAMATE IS A PROJECT WITHIN THE FIFTH FRAMEWORK PROGRAMME
OF THE EUROPEAN UNION IST INFORMATION SOCIETY TECHNOLOGIES



FINAL BROCHURE



This final brochure of SEAMATE bases on the research and experiences within this European project. SEAMATE has made estimates, for the first time at an EU level, of the socio-economic impact of IST on the EU-15, Norway and Switzerland, founded on a dynamic macroeconomic analysis covering the EU countries and Switzerland with detailed treatment of industrial sectors. It has assessed impacts on consumers/households, government and industry, with special consideration of the access of individuals to IST, the issue of 'info-exclusion'.

The reader will find the key conclusions of SEAMATE and get an overview, where to find more information. We hope, that the collected results of SEAMATE and its contributions to the European research in IST will be reflected in future national policies, research programmes and strategies for data collection.

EDITORIAL ...

The objective of SEAMATE – Socio-Economic Analysis and Macro-modelling of Adapting to information Technologies in Europe - has been to analyse the overall economic impact of Information Society Technology (IST) within the context of the European Union (EU) and national policies. This objective has been accomplished through a structured programme of work, conducted over a period of two years (2002-2003).

The project was divided in six work packages (WPs). Research was focused on two systems: the European social system and the European business system. Acting on these systems are technological changes in IST and many other changes in the world (e.g. socio-economic and cultural changes) that are outside the control of EC policymakers. Based on an exploration of these contextual factors, WP1 has produced IST outline scenarios representing changes in technology and other external factors. These outline scenarios and the parallel assessment of fundamental prerequisites and drivers of growth has been provided as inputs to the subsequent WPs. WP2 and WP3 have refined the analysis of the impacts of IST, respectively on the business system and society at large. WP1, WP2 and WP3 have each produced their own appraisal of IST impacts and possible strategies of adapting to information technology in Europe, identifying key issues, current evidence and relevant research questions to be



PROJECT CO-ORDINATOR
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CAMBRIDGE (UK)

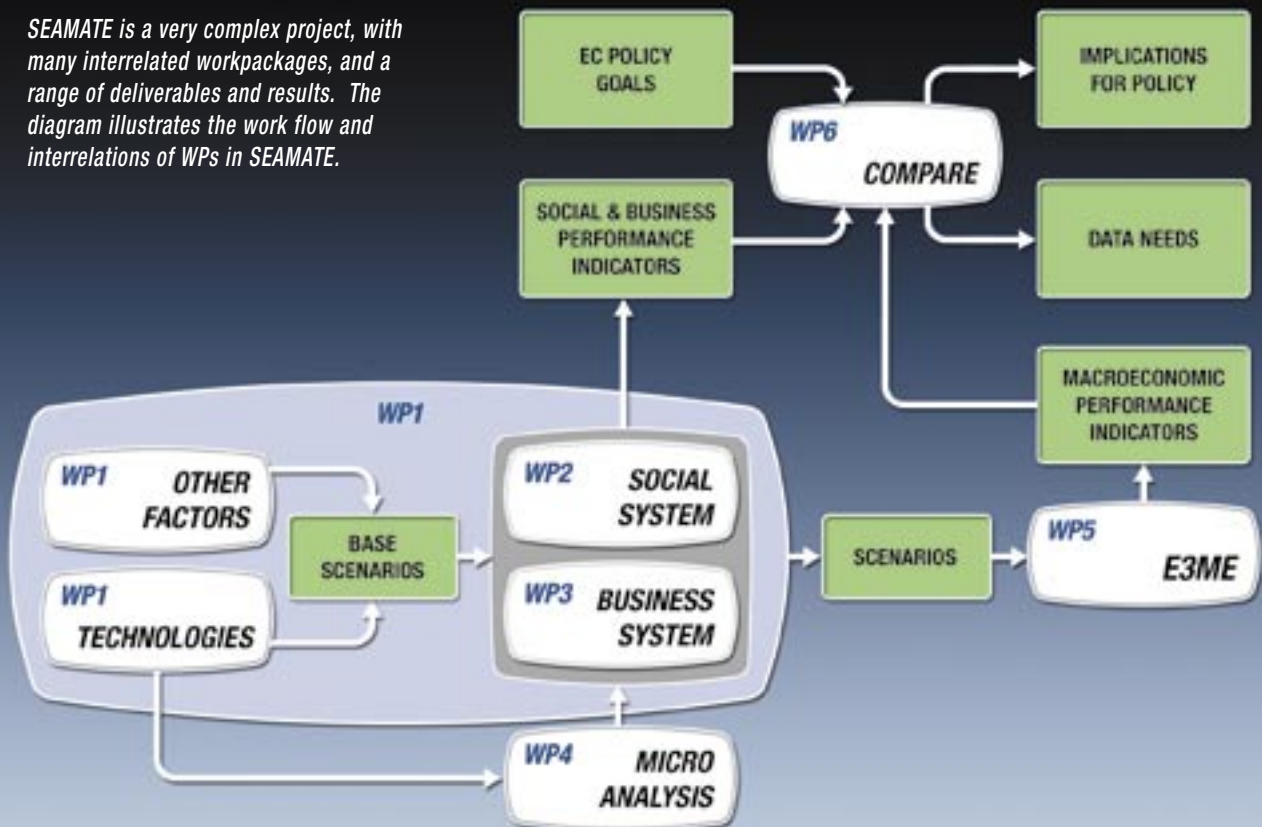
Editorial

answered, based on the state of the art knowledge in the fields of technology, economy and society. The microeconomic analysis of WP4 has provided additional insights about the effects of selected technologies on the business system.

Based on the above, a set of assumptions on the IST impacts and plausible effects of related macro and sectoral policies has been determined and used, in the second year of the project, as drivers in the E3ME model (WP5). This is a macro-economic input-output model developed to simulate structural changes of the national economies for EU 15 countries, Norway and

Switzerland. The E3ME model has been used to model the outcomes from combinations of social and business scenarios. Each case has produced macroeconomic performance indicators. In WP6, the outcomes in the range of social, business, and macroeconomic performance indicators within E3ME in the various scenarios has been compared to EC policy goals. Implications for policy changes have been identified. Finally, in the process of developing the scenarios and identifying the social, business, and macroeconomic performance indicators, the need for new statistical classifications and data to be collected to track the IST changes and their impacts have been identified.

SEAMATE is a very complex project, with many interrelated workpackages, and a range of deliverables and results. The diagram illustrates the work flow and interrelations of WPs in SEAMATE.



Key Messages from Seamate

NEW DATA COLLECTION STRATEGY

THE TAKE-UP OF IST

SEAMATE has undertaken a considerable amount of research across a wide topic area. While the research was identified under various separate themes they were very much interrelated. It was therefore not a surprise to see through the course of the research a number of issues appear across more than one strand of work. These common themes, or key messages are discussed below. The choice of these key messages should not mask in any way the more specific key messages that were concluded by each of the research area. These are argued and supported in the various project reports (see pp. 12).

■ The decision by people and organisations to adopt technology is clearly influenced by factors related to its 'availability', the 'opportunity' it provides (e.g. cost savings, risk, security), but it is also influenced by the 'preparedness' of users, a concept that reflects the technical readiness and subjective willingness of the company to adopt IST. We find that 'preparedness' factors, such as social/company culture and management attitudes matter as much as either of the other two factors, but are less able to be influenced through policy. To date policy has tended to have a 'hardware' focus and be concentrated on ensuring the availability of IST (see graph on opposite page).

■ Future developments of IST are conditioned by the cultural, social and economic prerequisites at the root of a web of cause-effect relationships and of ultimate socio-economic impacts. Progress towards the Information Society will be limited if these prerequisites are not taken into account. The extent and effects of the digital divide (early adopters vs. laggards) can therefore be seen to have a structural, macroeconomic, as well as individual, microeconomic dimension.

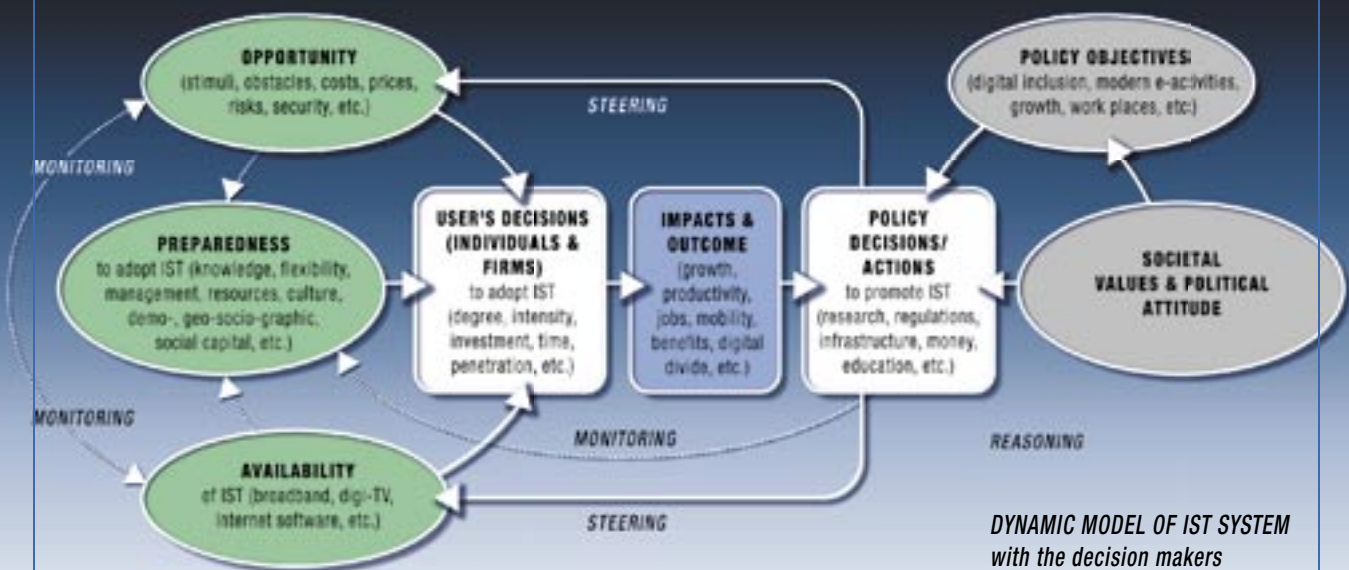
■ Problems and inequalities suffered by groups such as the elderly, women, residents in remote areas and the disabled, indeed exist and should be remedied, but their societal/national impacts are less than those of entire nations being laggard and/or failing to fulfil their potential.

■ The relative position of the EU15 nations shows a major digital divide between countries which has

structural, historical, socio-economic and cultural and socio-economic causes. It affects young urban professionals in delayed countries, who are generally provided with a level of IST competence that is lower than elsewhere, particularly in Southern European nations. The real division is between people who are able to produce knowledge added value in large amounts and people who are not, due to the lack of personal individual competence. In this context, important indicators include appropriate measures of literacy, numeracy and familiarity with the use of modern technology in everyday life.

■ The considerable variation in rates of IST penetration and adoption across the EU15 are reflected in the variation in the underlying prerequisites of innovation, including investments in R&D, education, as well as other kinds of skills and competences relevant to IST. Without these underpinning factors, the impact of new tools and networks on society and the economy will be less marked. Economic performance is greater in countries investing heavily in research, upper education and development of IST-related skills and competence. In this context, the role which universities and other education organisations play in producing graduates who have the requisite levels of scientific and technological knowledge is crucial.

■ Similarly, organisational process innovations may not occur without the availability of the higher level knowledge available to graduates in, for example, management studies or economics. Effective arrangements to ensure the flows of graduate with the appropriate spe-



DYNAMIC MODEL OF IST SYSTEM
with the decision makers
(policy makers and users of IST)
at the core of the model.

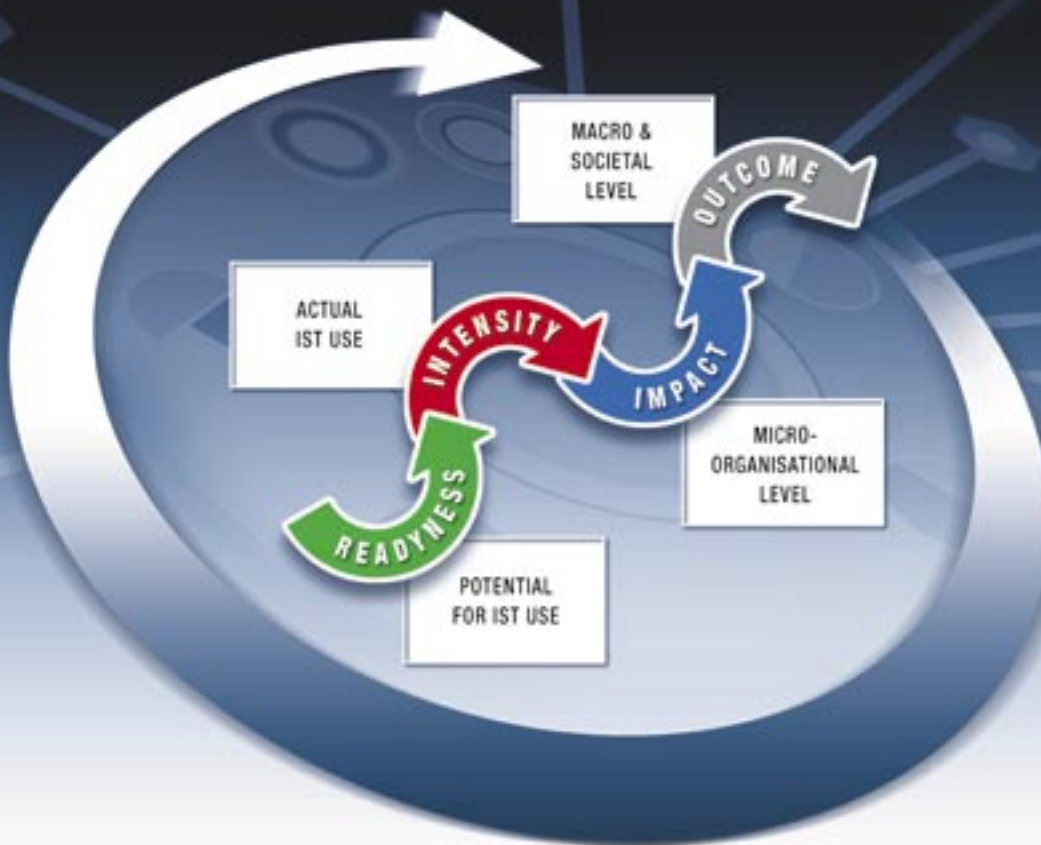
cialist competence from universities and other higher education into firms and other organisations is a major element in securing the conditions for innovation to occur. In particular, a specific aspect of human capital development is the growing international mobility of high-skilled workers and researchers.

■ Most companies see the main challenge in utilising IST coming from the need to establish the associated organisational and cultural change within companies that would allow information technology solutions to contribute to productivity and profitability rather than to implement technology-based solutions per se.

■ Even though IST is less controversial than other modern technologies (e.g. nuclear power or biotechnology) it remains important political and public 'issue'. Debate within society on the use of IST and the ability to reach consensus with regard to the necessary promotional steps and measures are important determinants of the speed of IST-diffusion and adoption within countries. Different European societies and economies show differences in the quality and practical consequences of this discourse and consensus-reaching-capacity. The ability to discuss about the IST in a way which makes

it more likely that they will be used in order to reach collective economic and societal objectives could be looked upon as one component of „social capital“ of different European economies and societies and contributes to increase preparedness.

■ The importance that we now attach to preparedness factors in the EU15 reflects the improvement that has been made in 'availability' and 'opportunity' factors recently. This in turn is in a part a reflection on the focus of earlier policies. It is probably not appropriate for the policies in the Accession countries to have a similar focus now on preparedness factors. These countries probably still require policies designed to improve access and opportunity to prevent the disparities of access (digital divide) from increasing sharply. At the same time there is a need to influence preparedness factors in the same way as for the EU 15. If not, for example, the relatively small proportion of the population with the marketable skills will become increasingly mobile. If there is a flight of such people in search of higher income opportunities than are available in their home economy, then this could damage the growth potential of the home economy.



INFORMING IST POLICY AND DATA

To date policy has tended to focus on trying to increase the change of technologies being adopted by influencing factors relating to access and opportunity. However, the evidence base to justify, monitor and evaluate policies is currently weak.

Data collection in the area of IST is traditionally based on a deductive reasoning approach where indicators of interest are identified through expert groups. The strategy for determining priorities for data collection needs to change and should be organised according to a hypothesis-driven inductive approach, so that indicators are available to support policy development.

In a system which depicts the causal relationships between policy makers, IST users, influencing factors and impacts, data currently help to answer only two types of research questions: which factors cause users to adopt IST, and which factors cause which type of impacts.

As disparities in access seems to be diminishing, or at least not widening further, policy makers need better data about IST use and about the outcomes and impacts of this use. Better and more harmonised IST-data would also help to improve and intensify the coordi-

nation of IST policies at national and European level, something that is badly needed in order to achieve the ambitious policy objectives that have been set.

IST can be used as a vehicle and instrument through which very different options and visions of the future could be achieved. Even though SEAMATE finds policy has limited scope for steering and shaping IST adoption and developments, it is necessary to use this chance of reflected intentional interventions by the means of various policies in order to benefit from the positive IST potentials and prevent the undesired threats.

A knowledge economy requires the generation of new ideas and a labour force that is skilled enough to use these new ideas. From the policy perspective this suggests that there is a need for public spending on R&D, education, and skills training.

For companies to be able to bring about the necessary changes in organisational structure and processes, they need to be flexible. Currently, most companies face a number of legal, regulatory, and institutional barriers in making changes to existing structures and processes. To increase the impact of IST it is important that certain

Key Messages

features are reflected in the underpinning environment. Such pre-requisite factors include the deregulation of the telecom industry, proper technical standards, digital signatures and a proper legal framework.

The generation of new ideas and their practical applications requires an institutional framework and business climate that support entrepreneurial, risk taking behaviour. In comparison with the US, venture capital and the associated institutions for supporting start-up companies in Europe are less well developed.

Given the importance of preparedness in stimulating the adoption (and impact) of IST, it is recommended that those countries where adoption is currently low (e.g. Spain, Italy, Portugal, Greece), pursue energetic policies for higher education, Research & Development and innovation.

The analysis of groups with special IST promotion needs undertaken by SEAMATE shows that they comprise individuals with different and specific IST needs and expectations. The groups are heterogeneous and contain various subgroups with important IST-related differences. While one part of an efficient IST promotion policy can be aimed at providing general support to all vulnerable groups, most measures must be differentiated and 'tailored' with regard to specific needs, constraints and resources of their addressees and targets. Finding the right policy mix between 'general' and 'tailored' programmes, as well as between 'top-down' and 'bottom-up' (including 'self-help') prescriptions is one of the main challenges of the current and future IST promotion policies.

THE FOCUS OF DATA COLLECTION NEEDS TO CHANGE AS IT DOES NOT SUPPORT FOUR KEY POLICY QUESTIONS

1. Which types of IST result in which impacts?
2. How effectively can policy actions steer the users' decisions to adopt different types of IST?
3. How do observed impacts affect the users' decisions to adopt differently different
4. How effective is policy at steering different impacts.

Although policy has limited scope it should be used to shape the future

Future policy should focus on innovation, flexibility, mobility and institutional and financial support

LEVERAGE POINTS OF IST-PROMOTIONAL POLICIES



For a policy or decision maker, who wishes to steer shape and promote IST-adoption and diffusion processes, SEAMATE identified potential approaches and leverage points (yellow in the table).



Factors limiting the estimated impact include reliable data as well as behavioural factors.

THE IMPACT OF IST

On the basis of past experience of technology impact, the expected impact of stronger investment in IST technologies is positive. However, there are series of qualifying outcomes.

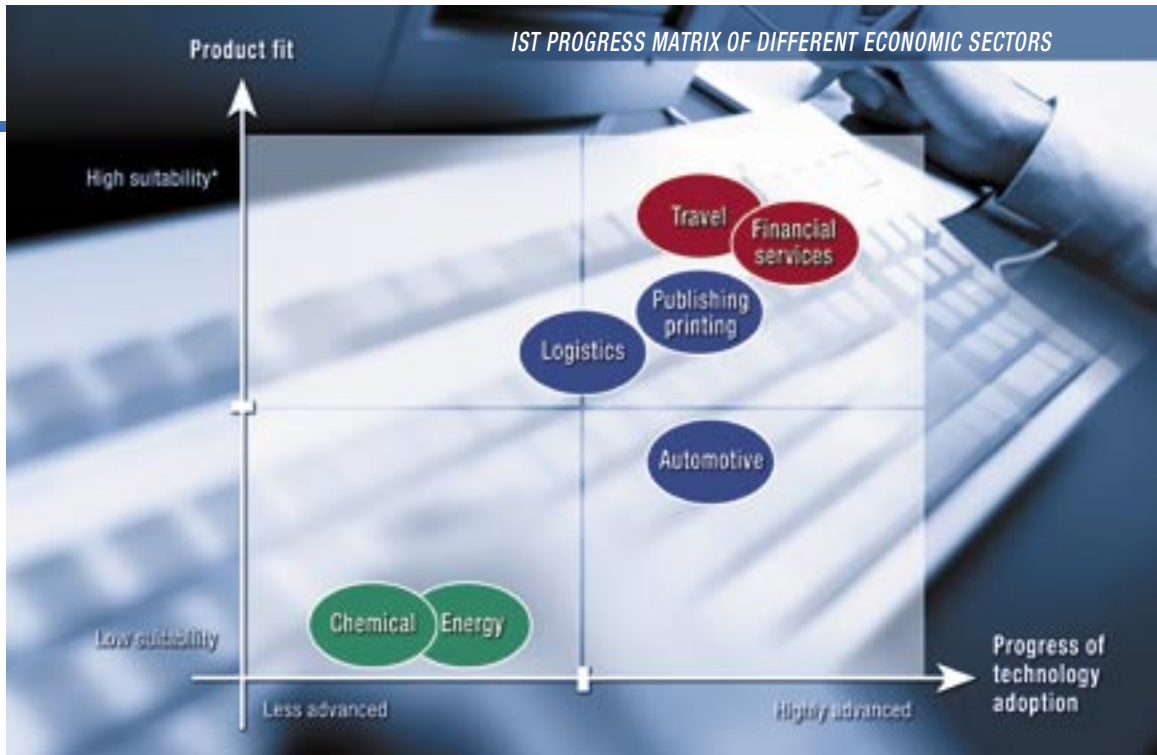
The impact is unlikely to be sufficient on its own to close existing gaps in gross value added (GVA) per capita substantially.

Because the investment in IST boosts productivity, the net impact on employment generation is relatively small, with increases likely in sectors with slow productivity growth whose products are income-elastic (e.g. catering). In some cases 'successful' implementation of IST is likely to mean fewer jobs in the implementing sector (e.g. e-banking), but this would be compensated by employment growth in other sectors (transfer of resources to more productive uses).

The main impact of e-commerce is to lower prices and raise the standard of living of consumers, rather than to boost output and employment growth.

Failure to invest in skills would result in greater polarisation in the labour market, with greater wage differentials between those with and without marketable skills, and limit the returns to companies of investing in IST assets.

The availability of data to measure the economic impact of IST is weak, compared with much improved data on availability of IST. At the macroeconomic level key data gaps include skills by sector and investment in IST assets by sector. At the firm level there is still a lack of reliable empirical information about the nature of e-business development and of its impact on the value chains of sectors.



Sources: Qualitative estimations derived from WP2 sector research

The impact would be strengthened if the level of organisational/managerial skills within companies was greater so that the necessary changes in an organisation's structure and skill set could be implemented alongside the introduction of IST.

Many companies pursue a rather defensive strategy in IST implementation. This can be in terms of the type of application they introduce (most e-commerce systems introduced are little more than e-catalogues or standardised e-mail forms which aim at improving customer service and increasing efficiency of working procedures), but recently the defensive attitude of companies is a direct implication of the previous e-business hype and the realisation that previous investments did not reap the returns that were initially expected.

Advanced e-business solutions require high level of managerial skills and is always cost intensive. Therefore, sophisticated solutions are mostly used by larger enterprises (generally a small proportion of a sector) and also only by specific sectors.

The relative weakness of the domestic (EU) IST industry could be limiting the impact of IST. A strong IST industry could bring positive spillover effects, such as through increased entrepreneurship and innovation in the application of technology.

Investment in IST will bring stronger economic growth, but it will not close key disparities nor generate much net employment.



Understanding the needs of potential users!



Assessing the impact of IST on physical resources

FURTHER RESEARCH NEEDS

The work of SEAMATE has identified a number of topics where further attention from researchers would bring substantial benefits to understanding the interaction between IST, society and the economy.

The importance and necessity of equal access to IST and of digital inclusion for all continues to be stressed, but not much is known about the experience, attitudes and opinions of the affected and concerned population groups which now experience problems with IST-access and use. More direct contacts and better dialogue with representatives of the concerned groups are necessary in order to improve the efficiency and chances of success of policies aimed at providing IST inclusion policies for groups with special promotion needs. It would be beneficial for the success and efficiency of IST promotion policies to see 'laggards' and IST-deficient groups not only as 'users', but also in the wider context of their economic and social situation and their specific empowerment and inclusion needs. Multidisciplinary participative and interactive research methods provide valuable insights for such policy and complement findings based on other methodological approaches.

There has been and will be a large number of national business surveys conducted across Europe aimed



at measuring business performance and the link to technology. Work is needed to consolidate and match them, to compare the results for successful and unsuccessful business in different countries. Such a pooled data set should be sufficient to draw conclusions on the behaviour of businesses and the impact on performance.

Further analysis of the impact of IST on physical resources is recommended to enrich the understanding of the impact of IST on productivity. Instead of the focus of productivity being on, say, value-added per worker it could be extended to cover a wider interpretation of efficiency, i.e. to gather more with less, to cover land-use (more space because we save the use of land), time (we avoid time-consuming tasks), energy (we avoid waste of materials or exploit better the energy transformation processes).

The modelling of network effects and the dynamic of diffusion of new IT products and services would benefit from further research into the dynamics of different industrial structures and market regimes, for example e-commerce oligopolies versus monopolistic competition. The new scientific approach to studying scale-free networks in several fields is also identified as a promising line of research.

Modelling new network dynamics



Reports & Documents

DOWNLOAD @ WWW.SEAMATE.NET

Assessment of IST trends, impacts on growth and outline of scenarios - D 1

Author: Carlo Sessa, ISIS

Target group: decision makers and scientists in the area of IST

This report provides a systematic overview of the complex dynamics of the digital economy. A conceptual framework has been built by literature review, data collection and analysis, expert assessment of data and trends, scenario building and qualitative substantive debate. A specific aim is to identify and analyse feedback loops that link the performance of EU economies and the dynamic of Information and Communication Technologies and related knowledge-based activities.

Business Impacts of IST - D 2.1

Author: Anja Koutsoutos, BIBA

Target group: Policy makers in the field economical impacts, researchers in economy

The objective of the analysis presented in this report is to investigate the actual stated and estimated impact of the e-Economy on European enterprises with special considerations to socio-economic issues. This analysis is mainly a desk study and includes a overall assessment and survey of IST impacts on the business site. This initial investigation will be followed up with a survey of the practical experiences of firms in different economic sectors, the findings from which are reported in Deliverable 2.2

Survey of IST enterprises experiences of socio-economic changes - D 2.2

Author: Anja Koutsoutos, BIBA

Target group: Policy makers in the field economical impacts, researchers in economy

This Deliverable has the aim to uncover practical experiences of European enterprises in several economic sectors in IST adoption. This survey should find out if the theoretical results found in the previous Deliverable 2.1 are similar to the ongoing practical experiences and to fill the theoretical gap of the desk study. This has been done with interviews of experts and representatives of leading enterprises and additional secondary interview surveys which have been more or less successful in implementing IST solutions.

IST Impacts on Economic Chains - Conclusions from Sector Analysis - D 2.3

Author: Anja Koutsoutos, BIBA

Target group: Policy makers in the field economical impacts, researchers in economy

The objective of this report is to draw conclusions and summarise the findings of the previous work carried out in the WP 2 sectors analysis. Economic impacts of IST on the different sectors' value chains in terms of socio-economic aspects, the derivation of impact indicators and the definition of requirements for IST take-up of companies have been investigated in order to provide input for exploratory micro- and macro analyses. The report provides final statements and answers to vital questions concerning e.g. the progress of technology adoption and integration, or the scale of the IST impact and the degree of variation across companies. It discusses the problem of measuring IST impact with existing e-commerce indicators and provides a critical discussion of problems arising in measuring impact indicators. Suggestions for new impact indicators are made in order to make IST impact on company level more transparent. Future requirements for companies wishing to integrate IST are presented.

Social Impacts of IST - part I D 3.1

Author: Michal Arend, econcept

Target group: Policy and decision makers in the field of social impacts, researchers in sociology

This report is dedicated to the formulation of a theoretical framework of interactions between economy and society. It attempts to establish an understanding of how changing attitudes in society lead to changes in work organisation and, from the opposite perspective, how society is changing in response to the changing demands of business and economy. Secondly, this report aims to identify the late adopters and IST-deficient population groups which have problems in coping with technological progress and to analyse their specific adoption problems, fears and resources, skills and promotional needs. IST-attitudes and behaviour can be analysed and explained in terms of individual characteristics and choices or in terms of a "structural" collective perspective.

Social Impacts of IST - part II D 3.2

Author: Michal Arend and Pia Steiner, econcept

Target group: Policy and decision makers in the field of social impacts, researchers in sociology

This report deals with the social impacts of new information and communication technologies (IST). Analyses of statistical data about the IST-disparities revealed that the digital divide by age and income or social class is much stronger than the disparities by gender and by place of residence, although there are also some interesting differences between EU-member states. The results of common discussions with representatives of groups with special promotion needs (women, inhabitants of rural / remote areas, handicapped people and the Elderly) are presented and Swiss examples demonstrate how to counteract against their discrimination. The analysis of current empirical data on the utilisation of IST in Swiss firms and on the most influential determinants shows that very often the speed of IST diffusion and adoption in companies seems to be drastically overestimated. Based on the above, a set of assumptions about IST impacts and plausible effects of related macro- and sector policies is presented.

Social Impacts of IST - D 3.3

Author: Michal Arend and Pia Steiner, econcept

Target group: Policy and decision makers in the field of social impacts, researchers in sociology

This deliverable is the Final Report of the SEAMATE project concerning social impacts of IST. Most of it represents an integration of the previous deliverables D 3.1 and D 3.2. A new chapter concentrates on the predictability of IST diffusion and adoption in companies. Often, a „hype“ or drastic overestimation of adoption rates and diffusion speed of IST can be observed. The analysis shows some reasons for such false estimations and suggests alternative models which promise more realistic expectations of individual and collective IST adoption decisions.

Exploratory Micro Analysis - D 4.1

Author: Rune Skjvedal, Lars H Vik, SINTEF

Target group: researchers in micro-economy, modeller

The report develops a micro-analytical model that incorporates the special characteristics of information and communication technologies and their impact on economy. To this end, it reviews the competitive structure of IST industries. Special characteristics of the network effects characterising many IST are analysed. In the end, the selection of technologies to model is

NEWSLETTERS

No 1 - The Impact of Technology on Society

SEAMATE - experts on their approach in data collection, analysis and modelling.



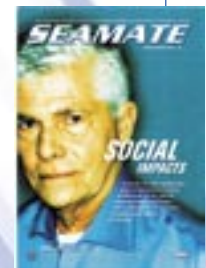
No 2 - Measuring the Trends of IST

Data analysis and predictions: how statistical data can better map and predict trends of IST development.



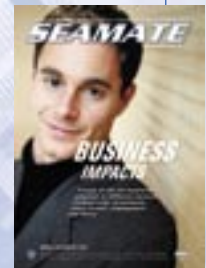
No 3 - Social Impacts

Trends in IST adoption and utilisation rates, differences in socio-demographic groups - the influence of gender, income and place of living



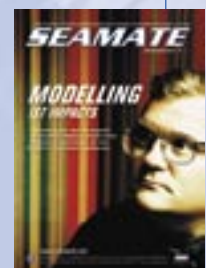
No 4 - Business Impacts

Trends of IST on business adoption in different sectors: Productivity, investment, value chains, employment and skills



No 5 - Modelling IST Impacts

Weaknesses and strengths of models: making predictions reliable on the basis of the SEAMATE tentative scenarios



No 6 - Managing Change

Policy implications of new developments in IST



conducted, and on the basis of data availability, general interest and modelling requirements applications of the model are chosen.

Microeconomic Modelling - D 4.2

Author: Rune Skjvedal, Lars H Vik, SINTEF

Target group: researchers in micro-economy, modeller

This report applies the microeconomic model developed in D 4.1 on an exploratory basis and tries to forecast the diffusion of two technologies, the wireless telecommunication and the Internet banking technology. The former is modelled as a competition between the wireline and wireless telecommunication technologies, whereas the latter is modelled as a diffusion of a single technology. Results show, that some lagging countries in wireline telecommunication services (e.g. I and PT) have overtaken some leading countries (e.g. D and F) when it comes to wireless telecommunication. Explanations of this effect includes the leaders' tendency to persist on using the old technology due to switching cost and high sunk cost of the widespread old technology. Further results refer to the banking sector and show the lack of reasonable and comparable price data.

Modelling Macroeconomic and Structural Impacts of IST in E3ME - D 5.1

Author: Sebastian A. de-Ramon and Richard Lewney, Cambridge Econometrics

Target group: modellers, scientists in macro-economy

This report prepares the production of estimates of the macroeconomic and structural impact of IST in the European economy. The method for achieving this is founded on a dynamic macroeconomic analysis covering the EU-15, Norway and Switzerland through the use of the existing structural and macroeconomic model, E3ME. The major IST developments identified in SEAMATE (social & business impacts, micro-analysis) will be incorporated to the model. E3ME will be updated through operating the necessary changes to its parameters and production relationships.

Model-Based Scenarios of the Macroeconomic and Structural Impacts of IST using E3ME - D 5.2

Author: Sebastian A. de-Ramon and Richard Lewney, Cambridge Econometrics

Target group: modellers, scientists in macro-economy

This report presents the result of modelling work and associated scenario work that has been implemented to quantify the scale and significance of the macro-

economic and sectoral economic implications of IST adoption in western Europe. This deliverable puts these technological changes in the context of the general path of economic development and the policy goals to which it is hoped that wider adoption of IST will contribute.

Statistical indicators - D 6.1

Author: Giampiero Beroggi, Volker Täube, May Levy, Swiss Federal Statistical Office

Target group: Statistical offices (+Eurostat), decision makers in the areas of economic and financial affairs, OECD

In order to derive policy recommendations for the monitoring and steering of the IST developments, meaningful statistical measures are needed. With the proposed conceptual model, we derived two sets of indicators, one for business aspects and one for social aspects of IST adoption. The adoption decisions were modelled as a logic tree, based on three main classes for business adoption (e-information, e-work, and e-business) and four main classes for individual adoption (communications, entertainment, professional work, personal work). Crucial indicators motivating IST adoption by firms are growth prospects, improved external relations, access to new markets and customers and improved internal processes. Crucial indicators motivating IST adoption by individuals are, e.g., necessities as work requirements, availability in the household or through work, favourable policy decisions and beneficial impacts like entertainment improvement. Inhibiting indicators are, e.g., costs, concerns about confidentiality or technical problems.

Policy implications - D 6.2

Author: Adnan Rahman, RAND Europe

Target group: policy and decision makers dealing with IST

In order to provide more insight for policy makers in the overall economic impact of Information Society Technology within the context of the European Union and national policies, SEAMATE has performed an analysis of the social and business environment in the context of IST, and has explored several scenarios via model runs executed in E3ME. This has been input for the policy analyses presented in this report. Given today's policy aims of the European Union in the context of the Information Society, the report presents a series of conclusions and recommendations that will help in particular governments at all levels to better understand their possible role and impact on where we go, and how we get there.

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DOWNLOAD ALL REPORTS FROM THE SEAMATE WEBSITE!

FINAL REPORT

Author: Anthony Barker, Cambridge Econometrics

Target group: Decision makers and scientists in the area of IST

The final report of SEAMATE summarises all project activities as well as the results achieved and the conclusions based upon them. It reports about the key messages concerning the take-up and impacts of IST, IST policy, data issues and future research needs. The contributions of all Workpackages are presented in a condensed form.

SEAMATE WEBSITE

Find detailed information and links to relevant projects. Download deliverables, reports and other documents.

www.seamate.net

SEAMATE INTERACTIVE CD

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Swiss Statistics
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