ELECTRONIC SOUTH EAST EUROPE
An Initiative of the Stability Pact for South East Europe
South Eastern Europe Cooperation Process

NATIONAL INFORMATION SOCIETY POLICIES
eSEEurope Common Guidelines

These Guidelines address the implementation of the Electronic South East Europe Agenda (eSEE Agenda) provision 1a 'Adopt regionally coordinated guidelines for the creation of the National Information Society Policies (NISP), which will serve as the basis for all legislative and other regulatory action'.

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INTRODUCTION

The decade of 1990's is considered to be the period that the international economic and political system was re-oriented to a more global approach. The gradual erosion of the nation-state development vision, the expansion of interregional production, the deregulation of commerce, the increase of interdependence between states and economies, all amounted to the urgent need for reconfiguring the political, economic, institutional and legal system from national to international in order to face these global phenomena.

The Information and Communication Technologies (ICT) are considered as one of the major driving forces of this transformation. While ICTs may create the prospect of a new world of opportunities for governments, businesses and people, they also may lead to new 'digital' dividing lines separating those countries and entire regions that lag behind in harnessing a leapfrogging development potential of ICTs. As a consequence, this will only further exacerbate the existing in these countries development problems and hamper regional cooperation processes.

The Western Balkans countries have been largely been outside the intensive process of building the Information Society for All in the EU member states and accession countries due to a decade-long political instability in the region. However, the time is not entirely lost and the main challenges in the process of '…integration into European structures and ultimate membership into the European Union, through adoption of European standards is now a big challenge ahead'.[1] Formulation and, more importantly, consistent implementation of visionary and holistic but yet realistic and manageable national information society policies is a major task to this end. For the Telecom sector, the main challenge is the development of a legal and a regulatory framework that promotes the creation of modern electronic communication infrastructure, the production of new better products and services at affordable prices and stimulates on this basis economic and social prosperity.

On 29 October 2002, the member countries of the Stability pact for South Eastern Europe (Albania, Bosnia and Herzegovina, Croatia, Federal Republic of Yugoslavia, Macedonia, Moldova, Montenegro and Serbia) formally associated themselves with the eEurope and eEurope+ processes by signing an international agreement "eSEEurope Agenda for the Development of the Information Society" (eSEE Agenda) at the Telecommunications for Development conference in Belgrade, and endorsed by member countries at the March 2003 South East Europe Cooperation Process (SEECP) Summit.

The intent of the eSEE Agenda document is to address the above-mentioned problem harmonizes the development and implementation of National Information Society Policies in the eSEE region with the EU's eEurope and eEurope+ and thus placing the countries of South Eastern Europe firmly on the path of EU integration. The eSEE Agenda acknowledges the significance of the historic shift from industrial to information society and the need for countries of the region to act:

- immediately; to address the gap between developed and underdeveloped which can will widen at a faster pace than in the past;

[1] EU-Western Balkans Summit, Thessaloniki, 21 June 2003: Declaration.

- decisively; to change of thinking and attitudes and requires bold steps on the part of the governments; and,

- cooperatively; to leverage advantages that are multiplied when made available to all -- sharing of experiences and successes is a win-win proposition.

The eSEE process has benefited from multilateral and bilateral support. Contributors include: the European Commission, and the governments of Greece, Hungary, Slovenia, Sweden, United Kingdom, United States, and Turkey. In particular valuable contributions have been made by:

- The European Commission, which provided guidance and advice through the DG for Enterprise and Information Society.

- UNDP, which hosted and funded the eSEE Secretariat in Sarajevo(BiH), and provided expert advisory services.

- The Greek Government, which prior to and during the Greek Presidency of the European Union and INA/SETA (Southeastern Europe Telecommunications Academy) facilitated eSEE Working Group meetings and contributed to the telecommunications policy portion of the Guidelines

- The Commercial Law Development Program of the United States Department of Commerce, which participated in the eSEE Working Group meetings and assisted in the formulation of the eSEE Agenda.

These Guidelines address the implementation of a specific eSEE Agenda provision 1a under “Commitments to concrete actions”, specifically “to Adopt regionally coordinated guidelines for the creation of the National Information Society Policies (NISP), which will serve as the basis for all legislative and other regulatory action”..

These Common Guidelines draw upon the core of the EU eEurope and eEurope+ initiatives and other relevant EU directives in the telecommunications sector. They also incorporate UNDP’s substantial expertise in information society programming acquired over the course of the past decade assisting developing countries globally (as well as specifically within the Central European and CIS regions) implement national information society strategies and action plans.

The UNDP Regional Support Centre in Bratislava, Slovakia, and the Southeastern Europe Telecommunications and Informatics Research Institute (INA), Thessaloniki, Greece, that offered their assistance in the preparation of this document in a very short period of time and assumed full responsibility for its contents, would like to thank all those who contributed to the Guidelines. Special thanks go to the members of eSEE Working Group, particularly to Ms. Vidas-Bubanja, eSEE WG Chair in Belgrade, and Ms. Nazecic, Operations Manager of the eSEE Secretariat at UNDP Sarajevo, for constant support and assistance.

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Dusan Caf (Slovenia) who are the principal authors of the TOR for Information Society bodies, have been most instrumental in preparing the Guidelines. Last but not least, the Guidelines greatly benefited in many aspects from the EU Greek Presidency.

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The Purpose of this Document

This present document is one of the inputs to the process of developing regionally common guidelines for the creation of National Information Society Policies (NISP). Its first and immediate purpose is to facilitate formulation and implementation of National Information Society Policies in the eSEEurope Initiative signatory countries as stipulated in the eSEE Agenda. Another objective is to stimulate discussion among stakeholders about basic principles for engagement and issues for consideration when embarking upon a formulation process --- from declaration of intent through to development of a normative framework and operationalization of a detailed Action Plan.

The practical aim of this document is to bridge one of the gaps that separates the intent of the eSEE Agenda from its desired outcome. This is necessary because although the eEurope model provides a roadmap for standard legislative and regulatory reform, it does not address or highlight certain of the more contextual and political issues that may hinder or even derail the reform process.

Challenges to Developing NISP in the eSEE region

As with any governmental policy-making process, the challenges of articulating and negotiating an NISP are many. However, one could argue that the challenges involved in deriving a wise policy framework to harness ICTs for national development are especially complex, ***for four reasons***.

- First, because the "newness" and rapidly-changing nature of the technologies make it difficult to acquire full and up-to-date information on which to base sound policy choices for future directives.

- Second, because the wide-ranging types and applicability of ICTs, with their potential to "enable" all development sectors, requires a cross-sectoral and holistic approach.

- Third, because embarking upon a transition towards a knowledge-based economy through the effective leveraging of ICTs requires multi-faceted, cross-cutting, but also inter-locking policy decisions.

- And fourth, because, the process of pursuing socio-economic transformation will inevitably alter the existing institutional order and its present balances and power arrangements, and these changes can be seen as potentially too disruptive, or even threatening, to certain players.

Moreover, within the eSEE region, popular awareness of the relationship between ICTs (as technologies) and the policy frameworks required to shift towards knowledge–based economies, remains relatively underdeveloped and demands special attention.

Harnessing ICT for development is definitively *not* about simply procuring more equipment and training: technocratically-driven solutions will do nothing to foster an enabling environment for the development of knowledge economies throughout the region. Rather, the process of articulating ***a strategy that promotes the emergence of an Information Society requires nation-wide and inclusive engagement:***

- ***to raise awareness and understanding;***

- ***to imagine the possibilities but then true these with what is possible and desirable;***

- ***to define the contours of a national vision and prioritize its respective goals; and,***

- ***to engender commitment across all sectors of the economy and society***.

This task is difficult enough for any country, but even more so for those of the eSEE region, given the past decade of turbulence and the very real dilemmas that see the investments required to unleash the future potential of ICT being weighed against the more tangible demands for immediate employment, security and stability.

These Guidelines are grouped in two parts:

Part A address the preparation of National Information Society Policies and Action Plans. There are two sections in this part. Section 1 provides some background to National Information Society Policies -- their objectives, components and formulation process –- and outlines five over-arching issues that should be kept in mind when embarking on the strategy-making process. Section 2 addresses a most critical point in the entire process – putting vision into practice by raising key process and content issues when attempting to implement a National Information Society Policy.

Part B addresses the national electronic communications infrastructure, a key component of the European Union's "Information Society for All" action plan. Communications networks, services, technological advancements and liberalization of the telecom sector are considered from the EU directives, as well as Greek Government documents.

PART A:
National Information Society Policies and Action Plans

CHAPTER ONE. NATIONAL INFORMATION SOCIETY POLICY: OBJECTIVES AND PROCESS

What is a National Information Society Policy?

A National Information Society Policy (NISP) is a declarative document that captures the national vision for moving towards an "Information Society" and sets out its basic parameters. Its purpose is to provide the essential normative framework enabling countries to move towards more knowledge-intensive economies. As such, NISPs need to embrace a holistic approach to defining the inter-relationship between technology, government policy, human resources, economic incentives and institutional regimes. As a framing document, NISPs need to define basic goals and objectives, such as the means by which they intend to meet national development objectives, and to achieve national consensus around the steps and priorities that are needed to implement the vision.

Pared down to its bare essence, the NISP should provide a framework that:

- Articulates a vision that frames the role of ICTs in achieving key national development priorities (or that establish "transition to a knowledge-based economy" as a national priority in and of itself);
- Establishes the legislative roadmap necessary to creating the appropriate enabling environment for achieving the vision;
- Identifies existing opportunities, challenges, and constraints;
- Defines key strategic resources and initiatives that will be required; and,
- Specifies a timeline and agenda for action.

NISPs: Some Background

a) NISP: A policy tool for development in the global era.

NISPs and their associated Action Plans are relatively new policy tools employed by governments worldwide as a means for addressing the centrality of ICTs to the prosperity of countries in the global era.

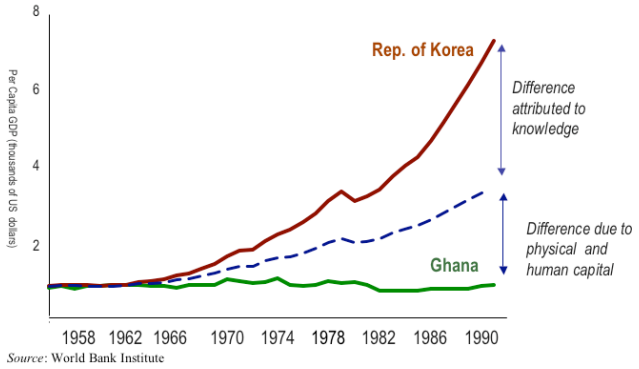
As information handling tools, ICTs are important drivers of the "knowledge revolution". In the modern era, there are few activities in which ICTs do not play a direct or indirect role: they impact on any activity in which organization, information processing, or communication is important. ICTs form the "nerves and arteries" of the global information economy, facilitating global flows of information, capital, ideas, people and products. As such, they have helped transform business, markets and organizations, revolutionized learning and knowledge-sharing, enabled greater participation and engagement by citizens and communities, and contributed to other efforts that have promoted economic, social and human development. They can also be important tools for individual empowerment through the means they make available for acquiring and leveraging knowledge and thus broadening the scope for individual and collective agency. Consequently, the issue facing countries is not whether ICTs are a development priority, but rather but how their potential

can be harnessed to leverage the benefits arising from the transition to a knowledge-based economy (see Box 1).[2]

Box 1. Knowledge, Development, ICT and NISP.

Knowledge has long been recognized as a key factor driving economic competitiveness, prosperity and improved living standards. Recent World Bank and OECD studies have established knowledge as a key determinant of development, and identified the ability to leverage knowledge as a factor responsible for differential rates of poverty and prosperity within and between countries.

Knowledge as a Factor in Income Differences between Countries: Ghana and the Republic of Korea, 1956-90



Source: World Bank Institute

Building knowledge economies is a complex long term societal task dependent on four essential factors:

- appropriate institutional regimes and incentive structures;
- effective systems for education and life-long learning;
- a dynamic national information infrastructure; and,
- an efficient system of innovation comprised of pubic and private institutions, and partnerships.

National Information Society Strategies provide a framework for countries to address the transition toward knowledge–based economies by:

- articulating a national vision,
- establishing an appropriate *enabling environment*; and,
- providing a road-map for action.

b) The Okinawa Declaration: A global vision and call for action

The current emphasis on developing NISPs and Action Plans is a recognition of the need to harness ICTs as a means to leverage knowledge in development. The publication of the Charter for a Global Information Society at a meeting of the G8 in Okinawa, Japan, in June 2000, signalled a recognition by the world's leading industrial powers that national governments and stakeholders, (and other development actors) had a responsibility to help narrow a "digital opportunities divide" that threatened to further exacerbate disparity between rich and poor between and within countries. At its core, the "Okinawa declaration" was a global call to action, calling on all countries to develop effective policy responses to ensure that ICTs could be harnessed to address the challenges of development.

[2] See, for example, Digital Opportunities Initiative, UNDP June 2001.

Prior to Okinawa, most development activities involving ICTs focused on the "pinprick" deployment of ICTs within specific development projects (such as schools, individual government ministries, or training on computers). However, these "stand-alone" efforts invariably hit barriers that arose from the environment in which the ICTs were deployed – limitations in the availability of trained human resources, infrastructural inadequacies, unhelpful regulatory environments, etc. In some countries, for example, laws protecting local telecommunications monopolies served to inhibited diffusion and use of telecommunications services.

These experiences fostered a growing awareness that the wider development potential of ICT is tethered to a highly complex mix of international, national and local conditions, with the policy environment playing a critical role. The Okinawa declaration articulated a shift in the understanding of how ICTs impacted on development, by arguing that a more strategic, coordinated and "holistic" approach to harnessing the benefits of ICTs could drive a "development dynamic" that in turn could have positive results for economic growth and further movement towards the knowledge economy. Following Okinawa, the importance of policy-level decisions has been reinforced and substantiated through a series of international initiatives, reports and fora (G8 Digital Opportunities Task Force, UN ICT Task Force, UNDP Global Human Development Report, World Bank Development Gateway) and by the experience of developing countries who have embarked upon NISP initiatives.

c) Rapid change and the challenge of effective policy-making

While the Okinawa declaration signalled a fundamental shift in the understanding of the role ICTs in development by recognizing the importance of government policymaking, it did not address some of the fundamental challenges that governments face when designing and implementing such policies. First and foremost of these is the challenge of dealing with a rapidly changing technological environment, which can create transformations that outstrip the ability of public institutions to adapt. As ICTs make possible new forms of association and bring into being new kind of markets (such as the global capital market, made up of interconnected financial institutions and exchanges), they have contributed to various erosions of sovereignty. This has forced governments to reorganize, modernize and transform their institutions to adapt to new networks of regional, global and non-state actors, and to the new levers that bind their national economies to distant markets. Moreover, simultaneity of these processes has meant that policy-makers are left to grapple with the challenge of designing complex public policies that require specialized knowledge at a time when such expertise often resides outside the competence (and writ) of existing state institutions.

d) The importance of adapting to local realities

It is important that each NISP is tailored to the grounded realities and needs of the local context in which it is deployed. As the process of developing NISPs is relatively new, it is important to bear in mind that there is no "proven" formula for arriving at, let alone implementing, a "successful" NISP. To date, NISP documents vary enormously. Some documents are broad "visionary" statements, while others are more narrowly focused sectoral priorities. Consequently, no clear "best practice" has yet emerged, especially given that the implementation stage -- which is the true test of any strategy -- is only just beginning in most countries.

As a consequence, testing and adjusting to local and national realities is important in any NISP process. It is particularly important in countries of the eSEE region, which are emerging from a decade long "triple transition" -- from state socialism to market capitalism, authoritarianism to democracy, and conflict and territorial re-alignments to relative peace and regional reintegration. Moreover, the speed and depth of these transitions is being accelerated by the need to rapidly qualify for accession to the now enlarged European Union.

These transitions, and particularly the pressure to meet criteria for European integration, are a challenge to state institutions at a time when, in many eSEE countries, the pressures for modernization and democratization in the face of inadequate resources, make even the enforcement of existing laws difficult. It is therefore important that NISPs in the eSEE region take into account these local realities, and adjust the ambitions and plans accordingly. Not to do so risks developing NISPs that set unrealistic goals and expectations.

A small-step and phased approach of stand-alone (though inter-related) initiatives applied to different areas is preferable vis-à-vis complex large-scale undertakings in order to diminish possible risks and associated costs of failures.

Components of an NISP

As outlined in the preceding section, there is no one clear model or template for a successful NISP document. That said, some NISPs have enjoyed greater success than others. In general, the more successful NISPs (to date) have articulated ***a clear and realistic vision***, and were derived on the basis of a structured ***consultation involving a cross-section of national stakeholders***. While it is difficult to determine what a NISP *should not* encompass, most successful NISPs possess three key elements:

a) National vision: Forward looking and inclusive
   The vision should be clearly linked to national development priorities and articulate a fairly concrete set of objectives that the country would like to achieve by some point in the future. These would include, ***a statement of the role that ICTs are to play in achieving a national development priorities or an outline of the desired characteristics of the national knowledge-based society that the NISP is designed to hasten***. An NISP will also usually define the special role envisaged for ICTs. In some, for example, this could mean that the ICT sector is itself prioritized for development. In others, ICTs are given more pervasive attention, as wide-ranging enablers of national development goals, such as the modernization of state institutions, enhanced education, or commerce. More detailed strategies may supplement this overall strategic vision by setting targets across several sectors -- including those outside of the state sector -- and engaging a wide-range of stakeholders (e.g., private enterprise, NGOs and academia) in the process.

b) Assessment: The rationale for action.
   The rationale should substantiate the feasibility of the vision, by way of a hard-nosed assessment of the current situation (baseline data), and specification of the type and scale of resources and inputs necessary to achieve the vision of the future. In some documents, the rationale is developed on the basis of comprehensive standardized measures that examine the state of the country's "e-readiness" (see Box 2). These studies, which address such factors as the legal and regulatory

environment, infrastructure, human capacity, access and awareness, help to pinpoint the critical areas for priority development as well as the country's comparative advantages. At present, there is wide variety of e-readiness methodologies to choose from, although many focus mainly on quantitative measures, with insufficient analysis of important qualitative factors including the local political environment. Whichever methodology is applied, the most important outcome is to "ground" the vision in a reality that is practical and achievable.

Box 2. E-Economy versus E-Society

Existing E-readiness assessment methodologies can be roughly divided into two main categories: "e-economy", those that focus on basic infrastructure or a nation's readiness for business or economic growth; and, "e-society" those that focus on the ability of the overall society to benefit from ICTs. While these two sets of tool are not mutually exclusive most existing models and studies can be grouped as follows:

E-Economy

- WITSA E-Commerce Survey
- APEC's E-Commerce Assessment
- McConnell International's E-Readiness Report
- Mosaic's Global Diffusion of the Internet Framework
- Crenshaw & Robinson's Cross-National Analysis of Internet Development

E-Society

- CID's E-Readiness Assessment Guide
- CSPP's E-Readiness Assessment Guide
- The various models for evaluating e-readiness from 'digital divide' reports
- CIDCM's Negotiating the Net Model

Source: Taken from Bridges.org, a South African-based NGO, that prepared a comprehensive tool kit assessing the relative strengths and weaknesses of each methodology. The toolkit can be accessed at the following website: http://www.bridges.org/ereadiness/report.html.

c) Intended outcomes and strategic benchmarks,

These should consist of a realistic set of criteria against which to measure concrete progress and achievements related to the national vision, including general benchmarks by which to assess the impact of specific policy choices and initiatives with respect to achieving national development goals, or movement towards a knowledge-based society. As the NISP is a visionary document, outcomes do not necessarily need to be detailed down to the levels of specific programmes. This level of detail is usually reserved for Action Plans (see Part 2 below). However, NISPs should provide a clear roadmap, which specifies the more strategic-level milestones and criteria against which progress can be assessed.

For the eSEE countries, the eEurope benchmark indicators of "information society" are an important reference. At present, these indicators consist of 14 policy indicators, and 22 supplementary indictors grouped into five categories: Internet indicators, on-line public services, e-business environment, secure information infrastructure and broadband (see Box 3). While these indicators have been tracked within the EU since 2000, the set of benchmark indicators continues to evolve and is being adapted to reflect the specific context of the 10 new member EU countries. It is essential that every indicator will provide enough information on how successful or unsuccessful policy has been implemented so as to undertake correction measures as early as possible.

Box 3. E-Europe Benchmarking Indicators
(by category and primary policy indicator)

A. Internet Indicators

Citizens access and use of the Internet

- Percentage of households or individuals having access to the Internet at home
- Percentage of individuals regularly using the Internet

Enterprise access and use of ICTs

- Percentage of persons employed using computers connected to the Internet, in their normal work routine.

Internet access costs

- Costs of Internet access broken down by different frequency of use: 20, 30, 40 hrs/month, unmetered rates.

B. **Modern On-line Public Services**

e-government

- Number of basic public services fully available on-line

e-learning

- Number of pupils per computer with Internet connection (broadband/non-broadband)

e-health

- Percentage of population (aged 16 and over) using Internet to seek health information whether for themselves or others.
- Percentage of general practitioners using electronic patient records

C. **Dynamic e-Business Environment**

On-line commerce

- Percentage of enterprises' total turnover from e-commerce

e-business readiness

- e-business index (composite indicator)

D. **Secure Information Infrastructure**

Internet users' experience with usage and ICT security

- Percentage of individuals with Internet access having encountered security problems
- Percentage of enterprises with Internet access having encountered security problems

E. **Broadband**

Broadband penetration

- Percentage of enterprises with broadband access
- Percentage of households or individuals with broadband access
- Percentage of public administrations with broadband access

Source: EU Benchmarking Europe website,
http://europa.eu.int/information_society/eeurope/benchmarking/text_en.htm

Process: Arriving at an NISP

The process by which a national ICT strategy document is arrived at can be just as important as the document itself. The reasons for this are simple: ICTs are a fast-evolving range of technologies whose impact and influence is multi-sectoral. Often there is not enough knowledge or expertise among government decision-makers to take informed decisions regarding the most appropriate policies and priorities. Moreover, ICT-related issues have implications far beyond the realm of technology alone: as a cross-cutting set of information gathering, processing and communicating technologies, ICTs raise issues ranging from privacy rights and national security through to real economic dilemmas like short-term layoffs and longer-term structural change and adaptation.

Within the eSEE region most populations will have some familiarity with ICTs of one form or another, with the majority having some appreciation of how these technologies affect their daily lives. However, the capacity to peer into the future is limited. Few would understand, for example, how policy decisions may expand or limit the future development potential of ICTs within the country. And yet, appreciating these consequences is essential for informed and strategic decision-making.

Experience drawn for other countries suggests that some approaches for elaborating an NISP have been more effective than others in ensuring that the resulting document embodies both a statement of declaration and a roadmap for future actions. Several factors appear to be particularly significant indicators of "successful" engagements:

a) Political commitment.
As with all government initiatives, choosing to embark upon a national ICT strategy process requires a strong political commitment. However, given the additional burden of dealing with a complex, multi-sectoral set of issues that are not easily understandable by the population at large (as opposed to other, more everyday concerns such as employment and security), a lack of political commitment from the highest levels can seriously decrease the chances of success.

b) An open, participatory process.
Processes that have tended to be "in house" – meaning within the existing ministerial process and away from broader consultative mechanisms -- have often produced limited, and therefore not really strategic, visions. In some cases, for example, the resulting documents allocate resources against limited projects and programmes, but ignore the need to reformulate public policymaking as a whole (and in all dimensions: governance, economy, security) in order to bring it in line with the realities of an increasingly globalized international environment. Conversely, open and participatory processes have generally mobilized different sectors of society – civil society actors, academia, the media, and the private sector -- whose engagement has helped to broaden the perspective and to ensure a close focus on national development priorities, while also mobilizing broad-based political support for the resulting strategy, which is critical for underpinning tough political choices.

c) Awareness–raising.
Some countries have successfully used the strategy-making process as a means for building wide-spread awareness of the potential role of

ICT in national development. As noted above, this awareness and engagement is crucial for sustaining political commitment to longer term goals and objectives, especially when the decisions required invoke difficult tradeoffs.

Key Issues for Consideration and Engagement

Arriving at a viable National ICT strategy is nether a simple nor straightforward proposition, and cannot conform to set-piece rules. Rather, it is a process of political engagement which is subject to the same range of risks and pressures as other high-level governmental decision-making exercises. To date, much of the literature dealing with the strategy process has not addressed these political intangibles that affect the strategy-making process, despite the fact that these factors often critically affect the "success" or "failure" of resulting directives and policies. While an exhaustive listing of these factors is beyond the scope of this paper, a few of the more significant issues for consideration are as follows:

a) <u>NISPs are a political, as well as a policy, process.</u>

NISPs compel decision-makers to make choices that affect the lives of everyday people by forcing them to confront tradeoffs in how to best allocate limited state resources. Investment in e-government systems, for example, needs to be offset against the cost of lost government jobs ands rising unemployment.

On another front, nurturing the growth of ICT often requires difficult policy decisions. For example, reducing restrictions on foreign ownership may stimulate needed foreign investment, but may also cause problems in terms of increased volatility resulting from foreign ownership over critical national infrastructure and political backlash against foreign companies buying up national assets and property.

These kinds of choices entail consequences that are not always possible to capture within the constraints of rational technocratic planning. Rather, they belong to the realm of the political. While the eSEE process places certain constraints and expectations on member countries (such as the timetable for implementing legislative and regulatory reform) it should be understood that achieving these aims will require the forging of a domestic political consensus that will entail confronting challenges and tradeoffs such as those listed above and may not occur in a linear, "rational" or straight-forward fashion.

b) <u>NISPs need to fit within existing national development means and objectives.</u>

This principle is related to point (a), above. NISPs need to be realistic and achievable within the bounds and context of limited human and material resources.

Recent experience suggests that NISPs which diverge from realistic goals have tended to become "dead letters," regardless of the rational needs they encompassed. Moreover, NISPs must also be grounded in existing national priorities, and development objectives. While the goal of reaching integration with the European Information Society may be at the heart of the eSEE agenda, there should be a recognition and acknowledgement that this process will be differentiated among the member countries and

subject to existing nationally-set commitments for integration across other dimensions of development. Information Society is only one of the measures of development. In this context, NISP should be linked to national poverty reduction policies. The general recommendation is that members of the relevant anti-poverty related body/initiative also participates as a full-fledged stakeholder in the process of NISP preparation. The same approach applies to various activities linked to the accomplishment of the Millennium Development Goals. In addition, a representative of a national gender policy entity should be invited to participate in NISP development.

In addition to dealing with the legacy of the former communist past, many of the countries of the eSEE are also dealing with the social, economic and political consequences of a decade of war and dislocation. While ICTs are playing a vital role in this recovery, they have not always been strategically exploited, nor have they figured prominently in existing large-scale efforts aimed at post-conflict reconstruction and normalization. The national ICT strategy process should account for this reality, and ensure that resulting objectives are harmonised with the specific priorities and commitments of existing plans and programmes

c) <u>NISPs are not “magic” solutions to underlying structural problems.</u>

While ICT can serve as a vital enabler of the development process, it is not in and of itself a “magic” tool or solution for addressing underlying structural or political causes of systemic dysfunction. For example, while ICTs can play a role in deepening democratisation by making institutions more transparent and accountable, they can only do so if the commitment to greater democratisation exists, and if ICT-systems that enable greater transparency and accountability are supported by other non-ICT based reforms, incentives and frameworks (see Box 4). It is important to keep in mind that the use of ICTs does not reduces, for instance, poverty level though it is not excluded either in case of a sizeable generation of jobs and related income thanks to the deployment of technologies and applications or major savings on that basis.

More important here is that ICTs promote and strengthen democratic governance and change government processes at al levels making these more responsible, transparent and people-friendly. This is where the ICTs’ developmental potential can be utilized to the fullest extent possible. Pro-active and wise use of ICTs in public management sector can create a far more responsive to democratic practices environment and citizen-centric ICT-based public services, the environment in which chances of effective to poverty reduction efforts will be significantly increased.

Box 4. Lessons learned: ICTs cannot resolve underlying institutional deficiencies

A recent review of donor-funded e-government projects found that most ended in total or partial failure. The main reason for this failure was the inappropriateness of "grafting" technical and managerial "solutions" from one national context into another and failing to take into account that local conditions may operate under assumptions and rules that often differ from those in which the "solution" was developed. These factors, however, are not unique to developing countries. Recent studies of IT applied to organizations in advanced industrial societies suggests equally high failure rates. What these studies suggest is that applying ICTs to organizations plagued by dysfunctional information flows, results in bigger, faster dysfunctional information flows. The problem does not reside in the technology, or logic of the proposed solution, but rather in the underlying information environment of the organization, and bureaucratic incentives that encourage hoarding rather than sharing of information.
An excellent source of information on "lessons learned" in achieving success/avoiding failure in e-government projects can be found at University of Manchester's **eGovernment for Development** website*:*
http://www.egov4dev.org/topic1.htm

d) NISPs can help address the important normative questions that define the citizen-state relationship.

A pressing issue is redefinition of the citizen-state relationship which previously was heavily in favour of the state. While in recent years this social contract has been redressed in the eSEE region, ICTs pose a number of fundamental challenges that lie outside of the legislative agenda set down by the eSEE process.

One such issue is the question of legally defining the rights of individuals to privacy. While ICTs can greatly expand the agency of individuals, they can also vastly augment the surveillance power of states and other entities (such as the private sector) that are capable of generating and archiving large amounts of data. While existing EU legislation defines normative standards and models for data protection, the NISP process in eSEE countries should address this question in terms of securing a fundamental definition of the right to privacy in national legislation that includes the new means made possible by ICTs, and to ensure that dependent legislation is likewise harmonized to reflect these rights.

The eSEE process lays down a roadmap for harmonizing national legislation with existing European directives. This process is expected to smooth integration into the European Information Society (see Box 5)

Box 5. eSEE Roadmap for Harmonization with EU Directives

March 2003
- Ratify and implement Council of Europe Convention on Cybercrime

November 2003
- Adopt legislation on electronic communications infrastructure and associated services
- Adopt legislation on electronic commerce, electronic contracts and electronic signatures

2004 (end)
- Adopt and implement Intellectual Property Rights legislation for Copyright, Databases, Patents, Software and Semiconductors
- Adopt and implement ongoing legislation for the personal data protection including protection of privacy on the Internet

e) NISPs should take into account emerging international standards and norms.

While the existing eSEE Agenda is based around a process of adopting and harmonizing the legislative and regulatory environments across the eSEE region (and the EU), the rapid evolution of new technologies as well as the exigencies of the eSEE region (e.g., some members border on non-EU countries) may require maintaining a flexible approach to the adoption of emerging international standards. In areas such as wireless broadband or business-to-business (B2B) e-commerce, rapidly emerging technologies will require policy-makers to have the capacity to make informed decisions. NISPs should address the issue of how eSEE member states develop and retain such a capacity.

The final document of the Bucharest Pan-European Conference held in Romania on 7-9 November 2002 in preparations for the World Summit on the Information Society entitled "Towards an Information Society; Principles, Strategy and Priorities for Action" provides very good entry point to start formulation of NISP based from the very outset on the internationally agreed provisions (can be downloaded from **www.undp.sk**). For example, social cohesion and inclusion are at the top of the international and EU agendas with understanding that if and where ICTs are effectively deployed, they can make a real difference in reaching out to and serving better the most underserved, vulnerable and disadvantaged – socially, economically and geographically.

Yet, one should keep in mind that just as ICTs can create new development opportunities, they also might lead to new 'digital' divisions among people and areas with regard to the availability of access or lack of access to ICTs and relevant information resources necessary for development. A constant and thorough assessment and monitoring of such processes is absolutely essential for preventive actions. The more ICTs are deployed, the more thorough must be policy monitoring and benchmarking However, one should distinguish lack of access to modern technologies due to underdevelopment/under-service or wrong policies from those situations when individuals remain non-users of the Internet and e-services because they don't see an added value in ICTs for themselves, consciously or unconsciously. In this event, NISP should plan and emphasise awareness raising, training and skills enhancement activities, as well as measures addressing a special and complex problem of social and human adaptation to a rapid technological change. Millennium Development Goals monitoring activities can be effectively used to this end as well as appropriate.

CHAPTER TWO. NISP ACTION PLAN: FROM STRATEGY TO IMPLEMENTATION

What is a NISP Action Plan?

As discussed, a NISP is a declarative document laying out a vision for the role of ICTs in national development, with clear directions, objectives and strategic benchmarks that are grounded in a realistic assessment of

capabilities, resources and potential. By contrast, an Action Plan is a detailed planning and implementation document, typically in the form of legislation tabled by the government or a state programme, which details how the objectives and goals of the strategy will be implemented, by whom, and with what resources.

Thus, while the NISP answers the question "what", the Action Plan answers the question "how" and "by whom". As such, Action Plans are always organized around a logical series of steps, sequenced over time and space to achieve the outcomes enshrined in the strategy. Each of the strategy's general objectives and outcomes are now specified in terms of measurable results or deliverables, and these are often accompanied by a detailed timetable and indication of process to be followed.

In most cases, the Action Plan takes the form of a government planning document, specifying activities with time-sensitive deliverables. It will include assignments of responsibility for the outputs / outcomes sought, criteria of achievement or performance for measuring achievement and quality as well as detailed budgets for each of the stages, broken down into capital and operational expenditures.

As Action Plans must deliver outcomes within specific politically-set time-frames, and must operate within limited and defined resource envelopes, they are usually constructed around several key strategic programmes or activities. The exact nature of these strategic programmes is governed by numerous factors of which the achievement of the vision laid out in the strategy document is usually paramount. But as Action Plans carry real political consequences, they are also invariably subject to less tangible but nevertheless equally important political factors concerning how, and by whom, state resources are to be used.

Implementing an Action Plan

A key factor affecting the success of Action Plans is the implementation and coordination arrangements – that is, the mechanisms put in place to ensure that all strategic programmes are harmonized and coordinated across all the requisite sectors. This is a particular daunting challenge in the ICT area, given the organically multi-sectoral nature of ICTs.

The eSEE Agenda document provides a partial Action Plan, in that it sets out a clear timetable and milestones for member states to pursue regional harmonization of NISPs and other policies and programmes (see Box 6). However, the Agenda does not elaborate the exact coordinating mechanisms, because these will vary from country-to-country depending upon different factors, including: the structure of government; the relative priority accorded to the Action Plan; and the type of programmes it encompasses.

Box 6. Implementation Timetable for the eSEE Agenda

October 2003

- Formulate and adopt wherever possible National Information Society Policy and Action Plan, based on the eSEE Agenda and NISPs, with clear goals, responsibilities and timelines for implementation. Action Plan should constitute an integral part of NISP.
- Establish a Cabinet-Level State Body for Information Society responsible for implementation of national Information Society policies, strategies and regulation, including those pertaining to e-Governance-based public administration practices and to coordinate introduction of Information Society curriculum, and standards between the ministries and relevant regional and international participants

2004 (end)

- Regional automated information systems covering goods traffic, free movement of citizens, measures against contraband and terrorism, based on the integration of national identification population registers and a network of national centers of exchange of information.
- "At cost" interconnection of national electronic communications networks.
- Public information access infrastructure for free access to public information;
- A regional telecommunications Service Level Agreement (covering standards and universal service).
- A regional skills-based electronic labour exchange (to promote regional distance employment of knowledge workers through Internet and other electronic communication mechanisms).
- A regional backbone connecting National Academic and Research Networks and a regional educational electronic information exchange (to promote greater coordination in curriculum, examination and grading standards and joint project work among teachers and students in the region).
- Negotiate tariffs for regional cross-countries commerce in ICT products and services.
- Regulation on firm creation, operation and taxation (designed to promote domestic and direct foreign investment in the ICT sector).

Models for Implementing the Action Plan and "Lesson Learned"

The eSEE timetable calls for a harmonized approach to creating a cabinet level state body in each of the member countries, to oversee, implement and manage the implementation the eSEE Agenda. The requirements for this state body are defined in a terms of reference, and should be adopted by the member countries by October 2003 (see Box 7, below).

Box 7. Terms of Reference: State Bodies for the Implementation of eSEE NISPs.

The eSEE Agenda for Development of Information Society calls for the creation of a state cabinet-level body to ensure that information society is a national development priority, demonstrate political commitment to advance the building of information society, and institutionalise NISP by establishing effective enforcement mechanisms across the range of governmental decision-making and practice taking into account a specific country contexts. A common and unified Terms of Reference for Information Society state Bodies is available to guide the establishment of such bodies and mechanisms (based largely on Hungarian and Slovenian experience), emphasising the following key areas:

- Modernization of the public sector (e-administration and information services) given its paramount importance for good governance and European integration processes
- Regulation and legislation (including cyber-crime, privacy, access to information, services and infrastructure)
- Consultation with all stakeholders and inter-agency coordination

The Terms of Reference strongly recommends that the two high-level policy making cabinet committees (of inter-departmental nature) be created:

- On information society issues chaired by Prime Minister to provide a framework for collective consideration of and decisions on major policy issues, including identification and removal of barriers hampering the implementation of national Information Society policy to minimise risks of failure, and
- On e-Administration (chaired by a member of the cabinet in charge of public administration reform) to drive forward a national e-administration strategy for creating favourable environment for e-business by modernising public administration; ensure quality and efficient public administration services; support integration of services across organisational boundaries; promote the use of new online delivery channels; ensure that opportunities opened up by new technologies are socially inclusive; oversight the delivery of e-administration projects within public administration, including allocation of resources and procurement; make recommendations as necessary to other cabinet committees.

Two additional bodies are recommended for establishment/designation, which will focus on the policy implementation and coordination level:

- Cabinet department on Information Society Development (usually a ministry) with strong focus on inter-sectoral coordination and standards setting and create/ initiate training and re-training opportunities
- Central Management Information Service (cabinet office) tasked to coordinate and monitor the implementation of e-administration initiatives, set standards/benchmark in public administration and e-services, initiate training.

This Terms of Reference is a not a one-size-fits-all recommendation but it rather serves precisely as a reference and departure point to reflect on local circumstances as much as possible. However, it also underlines an explicit need to make NISP a national priority through appropriate enforcement measures, including legislative

The above-mentioned flexibility is critical. To date, no definitive model for developing a successful action plan has emerged, nor is a single universally applicable model likely to emerge given that implementation will always depend on the structure and balances of the local political environment. As a consequence, as eSEE countries move towards designing and enacting new state bodies tasked with implementing the NISP to catch up with more advanced EU member states or ICT-successful accession/candidate counties, they should consider the “lessons learned” that that have emerged

from recent experience including in the SEE region (cases of Slovenia and Hungary are used to this end). Three such general options are briefly outlined bellow:

1. Creation of an inter-ministerial (inter-departmental) consultative entity.
   Usually such a entity is constituted by the head of state (or the head of government) to coordinate the implementation across all sectors of the economy. Often this committee will include the participation of experts from outside of the government, including representatives of civil society organizations, academia and the private sector. While these committees are rarely granted executive powers, they act as an independent oversight and coordinating body for a range of ministries and other institutions responsible for implementing specific components of the plan.

   Potential advantages: maintains the political profile at a high enough level to ensure that inter-ministerial rivalries do not threaten to derail the intent of the strategy.

   Potential disadvantages: in the case of changing political priorities, the structure may weaken and its lack of direct influence over ministries and stakeholders may mean that the effort quickly loses relevance.

2. Designation of a cabinet-level "lead" body (ministry/agency/department) responsible for policy 'enforcement' -- implementation coordination and monitoring (it is meant that the actual implantation is done by any relevant party, be it private or public, ministry or municipality) .
   In cases where the ICT strategy focuses on specific sectors or programmes (such as development of the ICT sector of the economy, or launching a Government on-line initiative), a single existing government body may be designated to oversee or coordinate the implementation of the action plan and set standards , for instance, for e-services and ensure that they reach the most underserved. In most cases, this will be a ministry with sufficient experience and resources to manage the process such as a ministry of economics, science and technology, communications or public administration.

   Potential advantages: existing cabinet-level body experience, networks and political weight can effect rapid changes in policy.

   Potential disadvantages: ownership by a single cabinet-level body means that programmes can be high-jacked by bureaucratic (or political) interests in ways that may not always conform with the spirit and intent of the strategy.

3. Creation of a new cabinet-level body (ministry/agency/department) responsible for ICT issues.
   In some cases -- for example when ICT is considered a major priority for national development, or where existing structures are not deemed competent or capable of taking on the range of tasks necessary to implement the action plan -- a new ministry or agency may be created for the task.

Potential advantages: a new body can act as a central broker for expertise and resources necessary for implementation of the plan.

Potential disadvantages: a new body will have little experience in competing for resources and authority with existing powerful ministries, and lag times between the creation of an agency and its ability to deliver may be lengthy and overtaken by subsequent political developments.

Key Issues for Consideration and Engagement

In the eSEE region, the *Agenda for Information Society* provides a roadmap and timetable for harmonizing the legislative and regulatory base needed for meeting the standards set for European Integration under the eEurope +programme. As such the normative base – and specific benchmarks -- for accession to the emerging EU information society is clearly and substantively addressed. Thus, eSEE countries are beholden to prioritize reform of the telecommunications sector, increased access to broadband, and modernization of state institutions and processes (e-governance).

However, while harmonization is a necessary precondition for integration, it is not in and of itself sufficient to ensure that the objectives of the eSEE Agenda are met. National Information Society Policies and Action Plans are the means to bridge this gap between the objective prerequisites for eventual European integration, and the national political process that will be necessary to mobilize and sustain the commitment of resources needed to achieving this vision. However, strategic programmes such as the implementation of e-governance on a wide scale are costly and fraught with difficulties. Some studies suggest, that the majority of e-government projects do not achieve their desired objectives. Moreover, in the context of post-socialist countries, where the state sector continues to generate a large percentage of jobs, measures aimed at cutting civil servants may not be the most politically expedient. Other, "softer" factors, such as the value of information or the sheer revenue-generating potential of local telephone monopolies also play a role, and cannot be excluded as important elements that affect and influence the shape, character and eventual success (or lack thereof) of these efforts.

Finally, it is important to remember that we are at the very beginning stages of developing policy tools that nurture the development of an information society We should guard against elevating our assumptions or our expectations to the level of "rules." In the three years since Okinawa, the over-investment and "hype" created by the Internet and telecoms bubble has forced the write-off of more than two trillion dollars in stockholder value from the books of major global telecommunications carriers and precipitated the loss of more than half a million jobs.

While technologies such as the Internet and mobile telephony have become hallmarks of the contemporary "information society", it is important to remember the rapidity with which these technologies emerged and how quickly and fundamentally they affected our previously stable assumptions, while also transforming the existing regulatory environment. The point here is that while action plans may be the best vehicle for concentrating and focussing political attention to a given end, they should be seen as a step along the way of a constantly iterative and vigilant process of adapting to the unfolding realties of the information age.

PART B:
National Electronic Communications Infrastructure

Electronic communications infrastructure and networks: the backbone of the Information Society

The National Electronic Communications Infrastructure

The national information and communication infrastructure is the backbone of the Information Society. In its broadest sense it comprises wired, wireless, satellite telecommunications, computer networks, transmission and switching systems, digital television, a wide range of terminal equipment as well as software services and applications, databases, electronic files and digital libraries. This infrastructure enables fast, friendly and low-cost storage, retrieval, handling and processing of digitised information in the form of voice, data, video, animations etc.

The constituent parts of a national communications infrastructure should aim at a comprehensive service platform contributing to the development of the economy and the society. For enterprises, the communication networks and new technologies are tools for modernisation and competitiveness. For the citizen, they represent the means for better access information and improvement of his/her quality of life. For society, they offer new methods of communication and social dialogue, enhancement of democracy and reduction of social and geographical discriminations. For the country as a whole, they offer the ability to promote and enhance views and interests, safeguard cultural heritage and identity, and keep close contact with expatriates.

Communications Policy

The development of the basic telecommunications infrastructure was in the past undertaken through public funds in the framework of the investment plans of the incumbent public telecom operator. The evolution of technology and the liberalisation of telecommunications imply that the future development of the telecommunications infrastructure (e.g. basic telephony infrastructure, added value services, mobile telephony, Internet access) will be achieved with both public and private sector investments.

Public Private Partnerships constitute a successful vehicle for Telecom infrastructure development. This will be achieved with the help of a regulatory framework that favours free competition and thus operates as an incentive for the delivery of improved services at lower cost. The objective is to create the conditions that are necessary for the widespread provision of advanced telecommunication services at a reasonable cost. To obtain this goal, the government should pursue a telecommunications policy with multiple goals, the most important being:

- Liberalisation in the telecommunications sector and harmonisation of the institutional framework with that of the European Union countries
- Provision of universal service and support of the development of new integrated services
- Further development of telecommunication infrastructure with the emphasis put on infrastructure enabling the provision of broadband

services, particularly in remote areas and underdeveloped parts of the country

- Exploitation of the dynamic character of the new technologies in order to "leapfrog" the distance to the developed countries,

- Participation in the new Global Information Economy

Box 8, CASE STUDY: Development of national networks and interconnections with the relevant international ones. Telecommunications Infrastructure in Greece today

In the framework of the operation of the country's trunk network (which has been entirely digital since the end of 1999), there have in recent years been substantial investments in the installation of fibre-optic cabling which, depending on the type and technology of the network components can be used in telephony, data transfer, multimedia services, etc. According to figures from the Hellenic Telecommunications Organization (OTE)[3], which at the moment owns and manages the bulk of telecommunications infrastructures, more than 16,000 km of fibre-optic cable have been installed in the trunk network (13,100 km on land and 2,900 km underwater). The company has also completed the installation of a public ATM trunk network, which is the basis for the broadband network and covers the whole country, and is completing the installation of a countrywide IP network. It should be noted that considerable activity is anticipated in the development of the country's trunk network infrastructures over the next few years, because of the abolition of OTE's monopoly in the installation and exploitation of telecommunications infrastructures. Already, ten companies have been licensed for this type of activity and have installed (or are preparing to install) the necessary infrastructures. With regard to OTE's subscriber network, by the end of 2000 the percentage of digitization was about 10% (including various digital access technologies, such as ISDN, PCM, etc.). The company is planning to increase this percentage during the course of 2002 with the introduction of technologies including:

- Fibre-in-the-Loop network access systems (FITL)

- Radio-in-the-Loop network access systems (RITL)

- Digital subscriber lines (HDSL, ADSL) allowing high-speed digital transmission via copper cable.

Mobile telephony
Developments in the mobile telephony sector are considered impressive, in relation to the European and international situation. It is estimated that by the end of 2001, mobile telephony had penetrated 71% of the market (compared to an average of 74% for the EU), with the number of mobile telephone subscribers in Greece nearing 7.9 million. Further, recognizing the contemporary needs of subscribers who travel, all mobile telephone companies offer a roaming service on all five continents, continually increasing the number of collaborating countries and networks.

3rd generation Mobile Telephony
In the middle of 2001 three (3) licences for 3rd generation mobile communications systems (UMTS) were granted. The licence-holders are at the network design and development stage, while the first services are expected be delivered by the end of 2003. The introduction of 3 rd generation mobile communications systems in Greece is marching in step with the introduction of the corresponding systems in the rest of the European Union. This places Greece at the heart of developments in the field of mobile communications and Greece's citizens will receive 3rd generation mobile communications services at the same time as the rest of Europe's systems.

[3] The Greek Telecommunications Organization (OTE) was established in 1949 and it was privatized in the 1990's. It ranks amongst the top Groups of companies in Greece and the top ten telecommunications organizations in Europe. It extends its activities beyond the Greek frontiers into South-eastern European markets and the Middle East. OTE is listed on the Athens Stock Exchange (ASE) and on the London and New York Stock Exchanges.

Regulatory Framework.

The strategic option for the legislator should be to separate the regulatory function of telecommunications from the policy one. This will result to a clear operating framework for telecommunication companies which can change according to market conditions in order to provide better services to the citizens. This should facilitate and attract new foreign investment towards SEE countries.

The qualitative and quantitative assessment of infrastructure requirements calls for co-operation between public entities, organisations, private companies, and professional and local authorities. Government policy should attempt to ensure that actions complement one another, with optimal use of resources, in a competition-friendly environment.

As a large user and provider of information services, the state (public administration, public services, and local government) will continue to play an important role in the development of the infrastructure. By selecting modern ways of communication and transaction with citizens and firms, it demonstrates the necessity of adopting new approaches and diffuses new communication methods, such as electronic mail, electronic payments, electronic transactions and electronic business.

The geopolitical role of the SEE countries in the development of telecommunications

The development of a safe, reliable, and flexible telecommunication infrastructure with an adequate capacity will connect national networks to the international information highways and give SEE countries the ability to play their role as potential candidate or candidate or full member countries the European Union member-state in south-eastern Europe. Government's should support telecommunications and information technology co-operation in the broader geographical area and encourage new initiatives as well as promote deployment of novel services in areas as e-health, e-learning, e-procurement and e-governance.

Box 9, Trends in Infrastructure development

- ✓ Full and complete dominance of digital technologies.
- ✓ Development of intelligent systems with the appropriate software.
- ✓ Dominant position of European standards in world mobile telecommunications.
- ✓ Considerable development of terminal satellite systems (mobile satellite communications and satellite TV)
- ✓ Dynamic growth of broadband Internet as a predominant way for the transmission of information and as a common communication network in our society.
- ✓ Recognition of the necessities for security and trust on the networks and wide spread of appropriate techniques such as PKT and cryptography.
- ✓ Significant developments in television and in content distribution and management technologies.
- ✓ "e-inclusion" recognition
- ✓ Significant changes and developments in the provision of market services with new roles for service providers.
- ✓ Production of packages combining entertainment, mobile and stationary telephony by different suppliers.
- ✓ "Always connected" concept
- ✓ The disappearing computer

Developments in telecommunications

An Environment of Technological Convergence

Digital technology allows today the provision by the same network of conventional and new services of higher impact as well as the use of terminals combining uses that nowadays are provided by specialised devices. The combination of market liberalisation with the convergence of technologies gives users the ability to select both their preferred service payment and the service provider.

New business entities

International frames show that in order to increase the range of services provided to the user, strategic alliances will be established between different entities in the information industry. Such alliances and relations will define the new business entities in the Information Society.

New services, a new regulatory environment

In the new, liberalised telecommunications environment the role and function of public telecommunication operators and regulatory authorities are changing. On an international scale, many telecommunication operators are starting to specialise in specific categories of services and applications through agreements with other suppliers such as information providers. At the same time, in the context of the changing relation between content transmission services and content provision services, governments are reviewing the regulatory framework and the principles governing licensing, access and use of infrastructures and offered services. The new E.U.

package planned to be set into force by the E.U. member states on June 2003, calls for a less regulated market. West Balkans Countries have the opportunity to leapfrog intermediate steps and comply directly to the new directives.

Box 10, CASE STUDY: Legislative Framework in Greece

The years 2000 and 2001 were turning points in the telecommunications sector in Greece, marked by the entry into effect of the new regulatory framework. This framework is basically defined by Law 2867/2000 (Government Gazette A 273, 19/12/2000), which replaced the much-amended Law 2246/94 with regard to provisions on telecommunications. Another law passed in the year 2000 was Law 2801/2000 on the regulation of matters pertaining to the competence of the Ministry of Transport & Communications and other provisions relating to licensing for the manufacture of antennas.

It should be noted that the institutional and regulatory framework is further supplemented by the various Ministerial Decisions and Presidential Decrees as well as by the decisions now issued by the EETT (National Telecommunications and Post Commission). Law 2867 is a framework law, which traces the basic guidelines that will underlie the adoption of the regulatory acts necessary for its implementation, in order to take account of the need for adjustment to continuously changing market requirements. The new law radically changes the role of the state, from that of entrepreneur and business owner to that of market organizer and regulator.

The central concept of this law is the free exercise of all telecommunications activities, that is, those activities relating to telecommunications networks, telecommunications services and telecommunications equipment. On the basis of the new institutional framework, the basic principles governing the organization and operation of the telecommunications sector are as follows:

- the protection of the consumer,
- the protection of competition,
- the protection of personal data,
- the provision of Universal Service, and
- the development of telecommunications infrastructures and services

Future Trends in Technology

Fixed Line Communication

- **Voice**:
  Current state: Voice over PSTN / ISDN
  Future trend: Voice over IP (VoIP) is the technology that promises to turn the old telecoms world upside down. The grey market for VoIP tends to be small starts that have a connection both to the internet to the local PSTN. With the help of VoIP backbone operators can offer international and interregional call termination and origination at a fraction of the cost that the region's incumbents charge. It is estimated that deploying VoIP costs around 550€ per subscriber compared to around 900€ for PSTN. Many cable operators have already introduced commercial IP telephony services. Six per cent of all international voice traffic is now IP-based.

- **Data-Internet**
  Current State: Access to Internet via PSTN or ISDN connections
  Future trend: Broadband access to Internet is offered through digital subscriber line (xDSL). Asymmetrical Digital Subscriber Line (ADSL) is one of the variety of xDSL systems built upon the existing twisted-pair telephone subscriber loop plant. The capabilities of the ADSL are well suited to the concept of a video-on –demand service.

- **Optical transmission**
  Over the past few years, optics has established itself as one of the basic communication network technologies as a result of the conjunction of several key technological innovations (optical fiber, semiconductor lasers) and market needs. Thanks to Wavelength Division Multiplexing (WDM), optical transmission now makes it possible to transmit enormous amounts of information over unlimited distances. As far as transmission capacity is concerned, fibre has no competition. Even though recent cuts in capital expenditure have slowed down progress in this field, the fundamental trends in telecommunications will inevitably bring optical technologies.

- **Cable Internet**
  Broadband access to the Internet by cable modem promises users lightning-fast download speeds and an always-on connection. The cable modem connects to the subscriber's personal computer's Ethernet port. It utilizes coaxial cables entering subscriber's premises to simultaneously deliver cable TV programs, access to the Internet, and also provide voice telephony. The use of optical fibre in trunk network will be an addition in the development of these types of services. Many operators are actively seeking to upgrade their analogue networks to offer broadband Internet access via cable modem.

Wireless Communication

Current State. The 2nd generation of mobile communications has proved a great success over the past decade as a result of its ability to meet user demands for global mobility of voice, roaming and messaging with an acceptable quality. GPRS is a stepping-stone on the way to 3G. It offers wideband wireless connection to Internet from mobile phones supported this protocol. According to recent reports there will be 110 million GPRS users across Western Europe by 2006 representing 35 percent of all cellular subscribers.

Future trends. Wireless Internet, 3G, all-IP networks. Wireless Internet is an exciting new opportunity that brings together the convenience of mobility and the rich multimedia content of the Internet. Delivering the promise of Wireless Internet will become a market reality only if we reach the ambitious objective of offering communications services anywhere, anytime, but not at any cost.

UMTS is a Third Generation standard for mobile communications. It will able to support high quality bit rate services, for Internet access, videoconferencing etc. A key question for operators moving to UMTS, is how this can be achieved in the most cost-effective way protecting investments in existing infrastructure and ensuring a smooth transition to the technologies and services of the future. Experience gained via mobile services such as WAP can give us an idea of the types of 3G services that can expected in the future based on the UMTS delivery platforms.

It is expected that the number of mobiles subscribers globally will have tripled by 2005 and the traffic generated by each user will have doubled, leading to a six fold increase in overall network traffic. In areas with high mobile penetration, like Western Europe, the balance between packet and circuit switched will turn towards packet dominated even quicker. In addition 3G applications and services will have widely variance requirements in terms of data speeds and bandwidths. The combination of high traffic levels and constantly variable demand can only be efficiently handled by evolving the network to all-IP networks. In all IP solution, the backbone network is

essentially a very high capacity IP fibre transmission system. Operators will benefit in terms of revenues from implementing all IP networks. An all-IP network is inherently better suited for future applications of the mobile information society.

Wireless broadband technology can offer the most cost-effective means of providing high-capacity, high-speed, data, voice, video, and Internet services. Broadband Wireless Access fills a gap for providing high-speed network access. It allows coverage areas to easily expand as customer demands warrant and provides one of he best ways to establish high speed networks services without the cost or longer deployment time associated with cable or fibre infrastructure. W-LAN technologies, can hook up to any IP backbone, is a solution for the future wireless broadband access offering up to 54Mbps in indoor environments.

Satellite-based Internet systems

In a satellite-based Internet system, satellites are used to interconnect heterogeneous network segments and to provide ubiquitous direct Internet access to homes and businesses. It is particularly attractive to point-to-multipoint and multipoint-to-multipoint communications, especially in broadband multimedia applications. The idea of using satellites as a solution of the last mile problem, inspired by the usage of cost-effective VSATs and improvements in satellite technologies, is relative new.

Conclusion

As a conclusion, all-IP networks will be the future in telecommunications market. The use of fibre optic makes possible the wired broadband Internet access with a high quality. 3G systems could be a solution for the wireless access to Internet that will impact specially in rural or remote areas, in the Eastern European countries and the other emerging economies where the cost of a wired access would make impossible the provision of advanced data services. W-LAN systems can be an addition to the future 3G systems in local areas offering broadband connectivity and easy access to Internet and Intranets without requiring wiring.

Alternative solutions to the high speed Internet access can be Satellite-based systems and the cable technologies.

Box 11, Broadband services in the Information Society

The development of broadband is a determinant factor for the development of the Information Society, according to the guidelines and strategic texts published by the EU and the OECD. The entire Operational Programme for the Information Society is characterized by a variety of actions for the development of broadband in areas like education, public administration, health and business, with an emphasis on the regions and remote areas. Recognizing the importance of broadband services in the development of the Information Society in SEE countries, the governments should within the next years be co-ordinating the various related actions in collaboration with the private sector.

Basic principles in developing a national telecommunications infrastructure

Access to networks and information

Users and those wishing to provide services should have access to networks and to information. For achieving this goal, specific regulatory and technological guidelines (e.g. establishment of standards) need to be promoted nationally, regionally and internationally.

Promoting competition

Promoting and protecting competition is of decisive importance for infrastructure development, especially in an environment of technological convergence. For this it is necessary to elaborate specific rules for terminal equipment, software operating systems and transmission networks. Given that the structure and the characteristics of the market are dynamic and rapidly changing, such measures must be constantly monitored and adjusted. In regard to competition there should also ex-ante measures that can contribute to the promotion of a competitive environment and avoidance of the abuse of dominant positions. In this context a number of initiatives promoting competition should be undertaken with respect to interconnection, numbering, spectrum management, licensing, interoperability.

- **Interconnection**
  Interconnection is important in a competitive market because it secures communication from any point of a network to any other point of another network and safeguards the right of all newcomers to be connected to the existing networks. Networks should be interconnected with transparent and non-discriminatory access to scarce resources. In the European Union, free access is defined by the concept of open network provision, which seeks to ensure open access to public telecommunication networks and services, in accordance with harmonised conditions. Harmonisation regards network interfaces, conditions of use and the principles of cost-oriented billing, and is based on the principles of objectivity and non-discrimination.

- **Unbundled Access to Local Loop**
  The unbundling of the local loop enables legally entitled organizations (telecommunications providers) to use the access network of the incumbent to provide services. All the national Balkan PTTs, developed most of their wire access network, which requires heavy investment, under the protection of a monopoly status. The possibility of other organizations to provide telecommunications services via the access networks of national telecommunications organizations should be secured by the appropriate legislation measures. The unbundling of the local loop enables competition and accelerates the application of new technologies

permitting the provision of new services with the immediate result that citizens enjoy higher quality services at accessible and competitive prices.

Box 12, CASE STUDY: The Greek Legislative Framework for Local Loop Unbundling

Law 2867/2000 has incorporated all the provisions with regard to Local Loop Unbundling (LLU) appointed by European Parliament Regulation 2887/2000 on unbundled access to the local loop. Under the current legislative framework, OTE 's monopoly on wired telephony was repealed on 31/12/2000, and potential access to the organization's local loop, that is, the access network that links the user's terminal equipment with the corresponding subscriber center, was opened to other Telecommunications companies. With decisions 217/29/18-5-2001 and 238/95/14-12-2001, the EETT (National Telecommunications and Post Commission) has approved OTE 's bids for Unbundled Access to the Local Loop (full and shared), thus laying the foundation for the full application and realization of unbundled access to the local loop.

- **Numbering and Addressing**.
  The development of the communications infrastructure shall lead to the need for the preparation and implementation of a National Numbering Plan (NNP) and the implementation of a number management framework. The National Numbering Plan should address the method, the timetable and the goals on a national level. The most important features of a comprehensive Numbering Plan should include are:

  - Timetable of implementation (Initial period, parallel operation period, date of conclusion)
  - Portability of telephone numbers
  - Carrier pre-selection

  Carrier pre-selection will allow the customer to pre-select the provider via which he/she will initiate a certain type of call without having to key in the corresponding carrier selection code. The portability of a number allows the citizen to retain his/her number when changing network providers and thus encourages citizen competition. The process of convergence introduces also the similar issue of addressing. In the context of electronic transactions, this issue is associated with the assignment and management of domain names, and leads to authentication and encoding issues. Numbering requires co-operation on a European scale, while addressing has an international dimension due to the universal character of Internet.

- **Spectrum management**
  Spectrum and radio frequencies are a scarce national resource and are of special importance for the communication infrastructure especially in wireless (earth and satellite) communications. In many countries spectrum use capability is granted for a fixed or periodic fee. For ensuring pan-European operation, common frequency bands have been defined for all member states for mobile and satellite communication systems.

- **Licensing**
  Licensing specifies the technical conditions (essential requirements) and public interest conditions that an entity requesting a licence for service provision should meet. As infrastructures grow and the environment matures, entry conditions should be simplified. The Telecommunications Regulatory Authority should work towards this end and actively intervene in this area, monitoring the activity of telecommunications providers and operators.

Box 13, CASE STUDY: Licensing in Greece

The existing situation in Greece with regard to licensed carriers may be summarized as follows:

- 3 licences have been granted for 2nd generation mobile telecommunications services, and a fourth was granted together with the 3rd generation licences
- 3 licences have been granted, via a tender process, for 3 rd generation mobile telecommunications services (UMTS system)
- 6 companies have been licensed (by a tender process, in December 2000) for fixed wireless access services (2 with licences for the spectral region of 25GHz and 3.5GHz, 3 with licences for the spectral region of 25GHz and 1 with a licence for the spectral region of 3.5GHz)
- 9 licences have been granted for the installation and exploitation of wired telecommunications networks.
- a total of 8 companies have been licensed for satellite services to a fixed network (operation, installation and provision of network and/or communications services, and/or the space section)
- there are more than 200 companies/organizations providing telecommunications activities requiring a general licence.

- **Interoperability**.
  The interoperability of services and the adoption of standards by providers, both on a national and on an international level, maximise networking possibilities. Consensus should be encouraged in the definition of the appropriate standards, and eSEE countries should participate in discussions in the framework of European and international initiatives in this direction. At the same time, private sector activities as well as intellectual property rights on proprietary standards need to be protected in order to encourage innovation and development.

The basic principles governing the development of the national communications infrastructure should be free access to networks and information and the promotion and protection of competition.

The liberalisation of telecommunications

Positive consequences.

The result of the liberalisation of telecommunications on an international scale is the provision of better telecommunication services at lower prices for enterprises and the citizens. At the same time, given the large share of the telecommunications sector in national economies, liberalisation will also lead to higher investments, productivity and employment in many other sectors. With respect to employment in particular, international comparisons show that more jobs have been created in countries with liberalised telecoms environments than in those with monopolistic environments. The telecommunications sector has the much-needed dynamism by the economies of the SEE region and should be exploited to the maximum of its capabilities.

Box 14, Consequences of freeing the telecommunications market

Expert analysis and international and European experience concur in predicting that the impact of the full freeing of telecommunications services in SEE countries will result in:

- a broadening of the package of services offered to corporate and private users, particularly with regard to integrated broadband services
- higher quality telecommunications services at lower cost, due to competition
- the operation of the telecommunications market as the engine for development in other sectors of the economy and of the society, driving up investment, productivity and employment
- increased employment in the telecommunication and IT sectors
- increased user choice with regard to the content and the services offered,
- entry into the market of new telecommunications carriers and in general new providers of value added services, accompanied by an increase in investments and in inflows of foreign capital
- higher rates of absorption of new informatics and telecommunications technologies & services
- changes in the structure of the telecommunications market and of the information services market as a result the new business model that will emerge from the national and/or supranational alliances among telecommunication companies and enterprises of other sectors

Completing the institutional framework

Completing the institutional framework by incorporating relevant EU Directives into National Law and introducing the necessary additional legislative and regulatory acts should be a government priority. The completed institutional framework will encourage the development of telecommunications as well as new investment activities in alternative networks, other infrastructures and the provision of new or conventional services.

A clear formulation and supervision of competition rules and implementation measures is necessary. This creates a climate of confidence in the market as regards the intentions of the policy-maker, and the rights and obligations of the organisations and companies involved in the new telecoms environment. The course towards full liberalisation requires the presence and operation of an independent and strong regulatory authority that supervises the policy mapped by the Ministry of Communications and the enforcement of its effective application. In this context, the government should support the independence of the National Regulator so as to promote its effective operation.

BOX 15, The role of the National Telecommunications Regulatory Authority

Because of the increased need for the State to constitute a reliable partner for enterprises active in the telecommunications sector the Regulatory Authority should be assigned important decision-making responsibilities in the areas of licensing and verification of compliance with the law, as well as advisory responsibilities in a whole series of cases. The National Regulatory Authority should also intervene to resolve disputes, whether the parties involved are enterprises, users or the State, and serve as an arbitration tribunal on the basis of the relevant arbitration clause. Its role should be substantially strengthened, and include both regulatory and monitories responsibilities, the chief of which are:

- regulating all matters relating to general and special licences (granting, renewing, modifying, revoking, suspending, transferring and sharing) and fixing the terms of competitions (where required) organized for the awarding of special licences
- issuing billing regulations and establishing costing principles for access to and use of the local loop, leased lines and connections
- assigning numbers and domain names
- granting licenses for the manufacture of antennas, and assigning isolated radio frequencies or bands
- drafting the National Numbering Plan and the National Radio Communications Regulations, as well as the conditions for Open Network Provision and any probable limitations to network access caused by substantive requirements
- drawing up the list of organizations with substantial market force, and of those that are obliged to provide leased telephone lines
- implementation of Universal Service, including matters relating to financing
- the possibility of issuing regulatory or individual acts; the National Regulatory Authority should also be required to advise the legislature on proposed legislative measures
- checking contracts for connections, provision of voice telephony and mobile communications services, and use and application of the National Regulation for the Allocation of Frequency Bands
- arbitrating differences between telecommunications organizations or between telecommunications organizations and the state, users and private individuals
- representing the country on European and/or international organizations and committees in areas relating to its sphere of responsibility

Market liberalisation and competition require also the correction of probable historic telecommunication tariff imbalances as well as transparency in billing. Tariff re-balancing may involve reductions in international and long-distance rates and an increase of local rates or vice-versa. The tariff policy should be cost-oriented. With the assistance of cost accounting systems, the operator will be in the position to provide information and justify the costing base of its tariff policy.

Policy priorities.

For the completion of the institutional framework, policy priorities should be:

- Supervision of network access based on the open network provision framework adapted to the status of gradually liberalised

telecommunications, in order to ensure that there is no abuse of Incumbent's Operator monopoly position

- Supervision of equitable treatment of all telecommunication service providers by the public administration and publicly owned firms.

- Provisions on interconnection based on transparency, objectivity, non-discrimination and creation of multiple nodes all over the country. Interconnection billing should be cost-oriented, taking international practice into consideration.

- Implementation of a National Numbering Plan, as well as of a new framework regarding the management of domain names.

- Clarification of the terms for the installation of public services for data (Internet) and installation of public terminals, etc. in public spaces.

Alternative networks.
Finally, in the framework of telecom liberalisation, the medium-term operation of alternative networks is of particular importance. Alternative networks are all telecommunication infrastructures except the network of the public telecom operator with monopoly rights. The development of alternative networks will promote the adaptation to the international competitive environment, while enabling certain public utilities to diversify their strategy and target new business activities with benefits for the consumer as a result of the strengthening of competition. The Telecommunication Laws and the liberalization of the market should allow the development of such alternative networks without the use of excessive public funding, on the basis of appropriate business plans and private sector profitability criteria.

In the context of telecoms liberalisation, the SEE countries should give priority to the completion of the institutional and regulatory framework and to the promotion and supervision of a competitive market environment.

Provision of universal service

Universal service should be an integral part of the policy for regional development and the participation of all citizens in the Information Society where access to information is a right (e-inclusion).

Box 16, CASE STUDY: Universal Service in Greece

By decision of the EETT the HellenicTelecommunications Organization (OTE) was required to provide Universal Service until 31-12- 2002. Specifically for OTE and for the period that ended 31-12-2002, Universal Service was defined as a set of services that include: access to the fixed wireline public telephone network (Voice Telephony for domestic and international calls, group III telefax communications, voice-zone data transmission via modem), answering services, subscriber information services, telephone books in printed and/or electronic form, public telephones, free access to emergency services "112".

The evolving content of universal service

Universal service has a dual role: social (as a means for avoiding exclusion) and developmental (assisting the development process). It is defined as a set of services of specified quality, available to all users irrespective of geographical location or other restrictive factors (e.g. individuals with special needs) and, in the light of the special national circumstances as applicable, economically affordable.

The content of universal service is dynamically defined as infrastructures continuously evolve. In this light, both the EU and international organisations such as the OECD accord particular importance to the content and the dynamic meaning of universal service and maintain that it is the first step towards the development of the Information Society. The Incumbent State Operator offered universal service and its content was focused mainly on voice telephony through a fixed connection, allowing also low speed fax and data transmission. Operator and emergency services, directory assistance, public phones were included; such services are to be available for people with special needs as well. With the evolution of technology and the market and with the change in user requirements, universal service may be modified in order to comprise:

- subsidising telecom services for economically weaker social groups
- the possibility of connecting schools, libraries, health centres and Hospitals to the Internet at special prices.

In many countries particular emphasis is given on the costing and financing of universal service in a liberalised market, since its development is expected to influence significantly basic activities such as education and/or vocational training. As a basic principle, it is necessary to provide information relevant to cost, prices, and quality. The costing of universal service necessitates the accurate and objective determination of the cost of services that are not economically viable, given that the manner of its financing will be determined on the basis of such calculations.

The cost is calculated on the basis of net cost, i.e. as the difference between the operating cost of an organisation with universal service obligations and the relevant operation without this obligation. The calculation should be made separately for each service, geographical area, special groups and individuals with special needs, and be based on procedures ensuring objectivity, transparency, non-discrimination and proportionality. Those liable to contribute to the cost of universal service are the entities providing public telecommunication networks and/or publicly available voice telephony.

Under the EU directive on open network provision, two ways of financing universal service are proposed: the establishment of an independent universal service fund on a national level and the payment of an additional fee by those connected to the network. In both cases, a prerequisite is the certification of cost by the National Regulatory Authority. In the case of the establishment of an independent fund, this is managed by an independent entity responsible for collecting the contributions by the liable parties and making the relevant payments.

Conclusions

The present document aimed to offer an overview of the major issues for the Telecom sector in the SE Europe, to suggest the necessary strategy and to set common priorities for the much-needed reforms throughout the SE Europe region. The intention of the authors was to draw a strategic guide and

not to issue a “one size fits all” policy manual. This would have created a document of doubtful credibility. For a detailed policy plan each country should be examined separately as unique circumstances demand special provisions but always with a regional approach and a European perspective (Part A, Section 1, page 18).
The focus also has been to the necessity of the countries of the region to converge to the EU acquis. However it should be noted that, depending on the country, the direct transfer of the European legislation is not always the most suitable solution in the short term. We should bear in mind that the direct transfer of the EU legislation for IT and the Telecom sector has two major drawbacks for the SE Europe countries:

The legislation process is too slow (average five years) and it might become already obsolete by technological advances. The EU legislator has in mind developed economies and markets so the priorities are quite different with those of the less-developed countries.

A more credible goal would be to concentrate first to the creation of a homogeneous regional market between the countries of the region that will attract FDI to the sector for the benefit of all, and in a later stage convergence to the EU, when the level of progress of the local economy will allow it more smoothly and more importantly more successfully.

The changing environment is placing all actors of the ICT sector under pressure to implement radical changes in their working procedures in order to improve competitiveness and respond to the market demands for the sake of their own survival in an increasingly competitive marketplace. The extent of the transformation process in SE Europe countries is considerable. Nearly everything in addition to legal and regulatory issues in the organization of the sector should be “re-thought” including its ***strategy, management style, organizational structure, working procedures, organizational culture, performance and institutional image, as well as HRM/D policies and systems*** in order to put them in-line with the new demands of a Global Information Economy. Such restructures are not exclusively needed in the SE Europe region. The European Union, since the Lisbon declaration, is pursuing the goal “to become the most competitive and dynamic knowledge –based economy in the world”. SE Europe is ***capable*** and ***should*** attempt to leapfrog and close the “digital divide” by implementing drastic reforms.

Nevertheless the above transformation is not a challenge to be faced exclusively by the governments and the regulators. Still, the ***policy-making and regulatory functions*** are facing the main challenges, having to restructure themselves in order to be able to respond adequately to a growingly demanding sector. This transformation process produces changes at all levels, which have to be assimilated by its staff within very short time frames. Some of the demands for the human resources could be summarized as follows:

- Acquirement of new competencies
- Absorption of more information
- Handling of new tasks
- Improvement of their performance
- Modification of their values and attitudes
- Change of their work habits

It is the human dimension that shall be fundamental in any change of the framework of the ICT sector.

People should:

- Understand the changes
- Accept the changes
- Be able to implement them

So, alongside legal and regulatory changes, ***people too must change***. HR-related challenges in a competitive and demanding environment are complex and laborious to implement. Governments should take advantage of regional initiatives such as eSEEurope, ITU Center of Excellence, INA Southeast Europe Telecommunication Academy (SETA) to attract/involve the greatest number possible of potential content/expertise providers, with a view to generate high-quality training and development products as well as benchmarks, case studies and models, in such a way that it would help the different players build sound solutions. Those initiatives require the active participation of all relevant players in the region, to be able to reach the necessary ***synergy*** to achieve the desired results.

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