

DG Information Society Intermediate Evaluation of the eTEN Programme

Report 2: Assessment of Potential Future Impact

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1. Introduction

1.1 Objectives of this report

This report has been prepared in connection with the Intermediate Evaluation of the eTEN (formerly TEN-Telecom) Programme. The evaluation was commissioned by the European Commission, DG Information Society, and carried out by a consortium consisting of Ramboll Management and IDATE.

The evaluation consists of two parts:

1. An intermediate evaluation of the implementation and performance of the programme over the period July 2000 to June 2004, and
2. An assessment of possible programme re-orientations and subsequent possible policy options and their potential implications and impacts for a new phase of the programme from 2006.

The first objective, the intermediate evaluation, is covered in a separate report, which also presents a number of recommendations for adjustments and reorientations of the programme¹. The present report covers the second objective, the assessment of programme reorientation and policy options for the eTEN programme from 2006.

This assessment is intended to feed into the on-going deliberations concerning the future of the eTEN programme, including the possibilities for an eTEN component of a new 'ICT Adoption and Policy Support Fund', which is intended to strengthen and further co-ordinate the Commission effort in the area of ICT uptake. Such a new initiative is likely to incorporate the activities corresponding to the current eTEN, ENISA and MODINIS programmes from 2006, while eContent, the Safer Internet Action Plan and IDA activities may possibly become part of the Fund at a later date.

1.2 Methodology

The report draws on several different types of sources. The experiences, results and impacts of the programme as it has been implemented to date were comprehensively investigated in the course of the intermediate evaluation of the eTEN programme, and substantial parts of this report are derived from the findings, conclusions and recommendations of that evaluation.

Additional data collection has been carried out specifically for the assessment of future policy options:

- A series of interviews were conducted with experts and stakeholders within and outside the Commission. The interviews focused on current and possible new themes (areas), objectives and future policy options for the programme and were based on a structured interview guide. A list of the persons interviewed is provided in Annex 1.
- A High Level Expert Group (HLEG) was assembled to discuss future options and challenges for the eTEN programme at two workshops carried out in April and June 2004. The HLEG was originally intended to work with the challenges and options in a scenario process, and the first workshop conse-

¹ Intermediate Evaluation of the eTEN (formerly TEN-Telecom) Programme, Report 1: Final Report on the Intermediate Evaluation, December 2004.

quently focused on trends and drivers for the Information Society. However, in consultation with the Steering Committee for the Intermediate Evaluation, it was decided after the first workshop that the group should focus on more concrete trends, challenges and options for the programme rather than scenarios, and this was consequently effected during the second workshop. The HLEG provided valuable input, in particular as regards the different themes covered by the programme. A list of the members of the High Level Expert Group can be found in Annex 1.

- Finally, recent, relevant reports and other documents were consulted during the preparation of this report (cf. Appendix 1).

The following chapters present a synthesis of the information gained through the above-mentioned activities. The overall structure of the report follows the structure recommended in the Commission's Communication on Impact Assessment (COM (2002) 276).

In this connection, the authors would like to point out that since an actual outline for the future of the eTEN programme does not yet exist, there are some limitations to the extent to which a complete Impact Assessment as outlined in the Commission Communication can be undertaken. Rather, the report represents an exploration and preliminary assessment of various future options for the programme.

2. The rationale for eTEN and its possible continuation

2.1 eTEN and the Lisbon Strategy

In the 2000 Lisbon Council, the Council stated as their goal the establishment of 'the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion' by 2010. To achieve this, an array of economic and structural reforms called the Lisbon Strategy would be implemented, with the overall objectives of

- modernising the European social model (cohesion),
- sustaining the healthy economic outlook and favourable growth prospects, and
- preparing the transition to a knowledge-based economy and society by better policies for the information society and R&D, as well as by stepping up the process of structural reform for competitiveness and innovation and by completing the internal market.

In the follow-up on the Lisbon Strategy, the Commission's Growth Initiative from 2003 identified current and new financial tools to support the European Initiative for Growth, including those which can help to leverage private investment. eTEN is one of these instruments, and a significant increase in eTEN budget and role is expected as part of the Commission priority 'Competitiveness for growth and employment', where a mix of research, regulatory and deployment policies are seen as a prerequisite for cutting the gap in productivity growth.

The continued need for Community intervention to promote the take-up of ICT throughout the economy was also reaffirmed in the recent Commission Communication on Challenges for the European Information Society beyond 2005². The Communication identifies a number of issues of relevance to the development of a coherent and forward-looking European Information Society policy, including eInclusion and citizenship, content and services, public services, skills and work, ICT as a key industrial sector, interoperability, trust and dependability, and ICT for business processes – most of which are among the issues addressed by the eTEN programme.

This points to a continued role for eTEN as part of the Commission 'tool-box' for improving competitiveness, innovation, and policies for the Information Society.

2.2 Are the current objectives relevant for the future?

The overall objectives of the eTEN (then TEN-Telecom) programme were defined in the Guidelines Decision establishing the programme in 1997 and remained unchanged in the 2002 amendment:

'The Community shall support the interconnection of networks in the sphere of telecommunications infrastructure, the establishment and development of interoperable services and applications as well as access to them, with the objectives of:

² COM (2004) 757, 19.11.2004

- facilitating the transition towards the information society, as well as providing experience on the effects of the deployment of new networks and applications on social activities and promoting the satisfaction of social and cultural needs and improving the quality of life,
- improving the competitiveness of Community firms, in particular SMEs, and strengthening the internal market,
- strengthening economic and social cohesion, taking account in particular of the need to link island, land-locked and peripheral regions to the central regions of the Community,
- accelerating the development of new growth-area activities leading to job creation.³

These overall objectives are fully in line with the Lisbon Strategy. They address key aspects of the whole European Union project and are sufficiently generic to remain valid in the years to come. Thus, the question of whether the current objectives are relevant for the future is more pertinent in connection with the 'Projects of common interest' which define the specific objectives of the intervention.

The projects of common interest are divided into three levels: Applications, Generic Services, and Interoperability and interconnectivity of networks, of which Applications and Generic services have subdivisions on specific areas: eGovernment and eAdministration, Health, Disabled and elderly, Learning and culture, Advanced mobile services, and Trust and Confidence services. It is these areas which were subsequently aligned with the objectives of the eEurope Action Plan into the five eService areas:

- eGovernment/eAdministration
- eHealth
- eInclusion
- eLearning
- eTrust and Security
- (from Work Programme 2004 supplemented with the area of Services for SMEs).

Although significant progress has been made towards many eEurope objectives during the last few years, the midterm review of the eEurope 2005 Action plan reiterated that there are still considerable barriers and progress to be made within all areas. Seen from that perspective, the specific eTEN objectives addressing these areas remain valid.

However, the High-Level Expert Group (HLEG) consulted during the intermediate evaluation of the eTEN programme, as well as other interviewees, pointed to the eTEN 'silo' approach, where projects are defined within specific domains, as being both too broad and too narrow at the same time:

- The definition of individual areas is too broad for a programme the size of eTEN to cover. Even if the budget of the programme were to be multiplied

³ Decision No 1336/97/EC of the European Parliament and of the Council of 17 June 1997 on a series of Guidelines for trans-European telecommunications networks, Art. 2.

by a factor 3 or 4, there will not be enough resources to achieve measurable impact on such a broad spectrum.

- At the same time, the focus on the specific areas can be a barrier to thinking 'out of the box' and to consider other aspects and areas. Specifically, the HLEG stressed that the real value often lies in combining different e-areas, and that talking about eSolutions or eServices, which are less restrictive in terms of service range, would be better than keeping a 'silo' division of areas.

Both of these aspects point to the programme defining eSolutions/eServices in much broader terms, allowing more diverse and, in particular, cross-cutting, issues to be addressed – this includes in particular the issue of interoperability as THE main goal to be addressed at EU (trans-European) level, as underlined at a High Level Conference on future ICT Policies, held in Amsterdam on 30 September 2004. At the same time, within this broad framework, key issues should be defined on which to concentrate programme resources. This identification should be done on a continuous basis and in consultation with the Member States.

Some of the key issues which may be of relevance to the programme are discussed in more detail later in this chapter. How to identify and select which of these (or other) key issues to address in practice, will be the subject of chapter 4 (Policy instruments and options) of this report.

2.3 The trans-European value of the intervention

A key question pertaining to the rationale for a continuation of the eTEN programme is: Why should the issues be addressed at European level rather than independently by Member States?

The main rationale for intervening at European rather than national level is the reinforcement of the internal market as a key element in improving the overall competitiveness of Europe. Interoperability and the introduction of pan-European services and networks are of pivotal importance to remove barriers for companies and citizens in the internal market. A co-ordinated effort at trans-European level is necessary to achieve that.

The trans-European value has been emphasized by most of the people interviewed during the study, and eTEN as an instrument contributing to an improved functioning of the internal market is still valid. The point is rather to better define what is expected and what can be achieved under the trans-European dimension.

Thus, possible modes of intervention at the trans-European level range from Community funding and implementation of actual trans-European projects to leaving implementation to Member States but co-ordinating national efforts at European level. This will be dealt with in more detail later in this report.

2.4 The positioning of eTEN between research and full market deployment

Most of the people interviewed point to the relevance of the current positioning of eTEN as a pre-market support instrument, and the members of the High Level Expert Group agreed that eTEN should re-assert its unique pre-market positioning.

The RTD programmes such as IST are a relevant instrument for pre-competitive development (3-5 or 5-10 years from market), but there is a

clear and continued need for an instrument to support pre-market development of eServices in the public interest.

Although eTEN projects do – and should – come from a variety of sources, eTEN has already demonstrated its role and relevance as a “follow-up” instrument providing pre-market support to relevant projects whose research phases were supported by IST⁴.

As was also discussed in the conclusions to the intermediate evaluation (Report 1), the question remains whether it is desirable for eTEN to have a close relationship with IST as regards funding of projects that have received Community support for previous (research) phases, since it may create the impression of incubation through Community funding. However, the need to ensure that the full benefits of previous research funding are reaped through deployment of important research results merits a continued close relationship between the two programmes.

The link should, however, not be exclusive, and it is important that eTEN does not function as an automatic channel for follow-up funding for IST projects. IST projects should continue to compete for eTEN funding on an equal footing with other types of projects – and perhaps even stricter requirements for demonstration of the deployment potential may be applied, given the previous Community funding of these projects. Preconditions for transfer from one type of financial support to another include adjusting/evolving the initial consortium into a more deployment-oriented consortium with strong involvement of end users and, if possible, venture capital, elaboration of the business case, and guarantees as regards the consortium’s intentions and resource commitment for the deployment phase.

2.5 What would happen in a ‘No policy change’ scenario?

A ‘No policy change’ scenario would imply a continuation of the programme in its present form. The intermediate evaluation of the programme concluded that the results and impacts achieved so far are rather limited, although the main body of evidence for this is related to projects initiated before the strategic reorientation (alignment with the eEurope strategy) in 2002, and there are a number of indications that more recent projects may be expected to be more effective as regards deployment and achievement of impacts.

However, the number of initial deployment (as opposed to market validation) projects remains low, and the participation of public administrations and focus on key issues of real significance in the projects has not increased much despite the reorientation of the focus towards public services. In order to ensure the achievement of substantial impacts, significant changes to the programme are needed in terms of issues addressed, types of projects supported, Member State involvement etc. Thus, a ‘No policy change’ scenario is not really an option for the programme.

⁴ According to the Intermediate Evaluation Report, more than one-third of eTEN’s current project portfolio consists of projects previously supported by Community research programmes, mainly IST. The evaluation showed that the projects originating from IST were neither more nor less successful than projects with other origins.

2.6 Key issues and main trends in the development of various domains of relevance to the programme

This section contains a number of indications of key issues that could be addressed by a future eTEN programme. Although the areas are structured according to the current eService domains covered by eTEN, supplemented by a few related domains, this should not be taken as a guide to the future structure of the programme. As pointed out above, the current definition of domains should be broadened and the "silo" approach to projects be abandoned. However, the headings applied in this section turned out to be a practical way of organizing key issues.

2.6.1 *eTrust and Security*

Security of networks and communications is a major area of concern for the development of the digital economy, and also a cross-cutting aspect which needs to be considered in any project, regardless of which other domains and issues are being addressed.

Even though the *Electronic Signature* Directive is currently being implemented, national differences in terms of procedures, processes, regulation etc. remain and can represent real impediments for the roll-out of security projects/systems. One of the main issues would be to achieve real trans-European interoperability of security systems not only on a technical basis but also on a functional (user friendliness), commercial or even legal basis.

There is a growing demand for more and more sophisticated security systems and devices. However, security has a cost and these costs are increasing notably due to technological innovation. Another important issue is to find the way to satisfy this growing demand by finding *models for cost sharing* between public and private market players.

Physical security and virtual security gradually merge as they are more and more based on the same kind of technologies. From that point of view, physical security projects could also be considered by the eTEN programme.

As regards the coverage of eTRUST by eTEN, the High Level Expert Group states that:

- Support to market validation project remains a good instrument/tool for a better understanding of what demand and particularly final demand is. On this specific aspect, the support should also consider legal analysis that is increasingly needed when assessing market opportunities.
- Security is certainly a domain for which the option for supporting a « Top-down » approach that implement open coordination methods would be appropriate since it is a cross-cutting domain which can be applied to eFinance but also eHealth, eGovernment, eEntertainment etc.

2.6.2 *eGovernment*

eGovernment is a multidimensional issue:

- Institutional: from local to national and trans-European
- Users: from public administrations (PA) to citizens and businesses

eGovernment is now facing the real challenge of implementation beyond the 'surface', in the sense that websites or web portals have been developed which represent the first level of information/service provision. Now it is time to fully operate the re-engineering process of administrative (back-office) procedures.

First challenge: To reinforce the achievement of Public Administration re-organisation. After having developed the visible part of eGovernment applications, via website or portals, public administrations are now facing the need to find sustainable funding sources to first maintain the service, and second complement the developments with process reengineering. However, current public budget cuts can impede the will to further develop eGovernment applications and services.

Second challenge: To highlight the value for money and benefits of eGovernment applications and services in order to gain access to the necessary investment and operational funds

Third challenge: To identify issues or subjects for which the trans-European dimension is essential, such as citizen mobility, social security, pension systems, security of citizens, environment, multi-lingual services etc.

Actions recommended by the High Level expert Group:

- To select a few key projects with a highly visible Trans-European dimension
- To facilitate and ensure strategic coordination among PA bodies

2.6.3 *eInclusion*

Like Trust & Security, eInclusion is more of a cross-cutting aspect than a separate domain. For this reason, eInclusion has turned out to be a difficult area for eTEN in its current 'Action Line' structure. It appears to be not very well understood by the constituency, and in the most recent eTEN call for proposals, the proposals in this area were few and of low quality. On the other hand, eInclusion issues are often addressed as part of projects whose main focus falls under one of the other current Action Lines. Thus, it has already been demonstrated in practice that rather than having its own 'silo', eInclusion should be seen as a generic concern which is more naturally addressed as an integrated aspect of projects regardless of whether they are labelled eHealth, eGovernment, or eLearning.

The main challenge for eInclusion is to make people realise the value of eServices. From that point of view, future strategies for integration of eInclusion issues in projects should focus on education and accessibility, taking into account not only the financial aspect of this issue (services must not be too expensive) but also the motivational and cognitive ones (ease of use but also better understanding of how eService work, or of cultural factors, etc.).

2.6.4 *eHealth*

The eHealth area is now characterised by a series of important issues, such as:

- The problems related to the engineering and the development of specific devices in the field of ambient technologies
- The issues that are specific to the telemedicine field (healthcare services to remote areas, technologies to be used, ...)
- The trust/privacy issue which represents an important barrier to the development of eHealth solutions because of the different users' (patients, practitioners, insurance companies) viewpoint on these specific matters
- Legislation, security issues

As in the field of eInclusion, eHealth solutions still remain not very much in demand (because of lack of public knowledge but also legislation, security, trust/privacy issues etc. as outlined above).

In that context, it seems important to make the advantages of eHealth clear to all groups acting in the field - practitioners, pharmaceutical companies, insurance companies, etc., as well as to the patients. The main challenge would therefore be to promote eHealth around Europe. Consequently, the potentially most effective strategy would be to forcefully demonstrate the value of specific eHealth initiatives.

Given that point of view, supporting an EU-wide eHealth service targeting for instance European citizens with the highest mobility and focusing on the handling and exchange of personal data could continue to be a valid strategic option for the eTEN programme (an issue already addressed by the Netc@rds project). The HLEG group pointed to an EU health service with one number, one call desk, one kiosk, one portal, that could help direct European citizens toward the right service and therefore would facilitate the provision of basic health care to the individual patient. This service would have access to the patient's file in order to give them proper answers.

2.6.5 *eLearning*

There is a widespread opposition or non-support among educators to the new methods. This constitutes an important barrier to the development of eLearning services which must be taken into consideration.

Another challenge for the deployment of transnational eLearning services is that education and training is focused around national or regional systems, which means that most of the eLearning services operate on a national market and rarely on a transnational basis. Transnationality is therefore in itself a challenge. Furthermore, the national education systems and policies in Europe are either centralised or decentralised. Consequently, eLearning projects will have different outcomes depending on whether the system/policy is centralised or decentralised.

Currently, the main areas and issues which need to be addressed in the field of eLearning are:

- Language learning
- Lifelong learning
- Network integration for universities, research institutions etc
- Addressing the regulatory barriers for recognition of qualifications and accreditation.
- The international development of national eLearning services: With the increasing globalisation, Europeans living abroad require learning services from their own country and in their own language.

Actions recommended by the High Level Expert Group:

- eTEN is going against the general trend by trying to support eLearning projects which seek to operate on a trans-European level. This may only be feasible on a very professional (high) level of education. From that viewpoint, eTEN should instead stimulate *methods* of eLearning.
- The current methods of funding of eLearning create a culture of dependency. A more entrepreneurial approach to projects (not to funding) should be encouraged, with greater emphasis on risk assessment in the evaluation of proposals.

- A top-down approach: Which areas can not be expected to be covered by private investments? The public sector is active in this area almost by definition, so there should be scope to agree on a plan of action in concertation with the Member States.

2.6.6 *ePayment*

ePayment was suggested as one of the new domains which could be covered by a future eTEN programme. However, interviews suggest that at the moment within this domain there are no themes or types of services for which deployment falls within the competence of the Community. ePayment is currently a too fragmented market and a too conflicting subject. eTen projects in this domain would therefore not bring any consensus. Support to research projects seeking interoperability between ePayment systems should be provided by the IST programme and eTEN impact in this specific field would not be very important.

2.6.7 *Digital Rights Management (DRM)*

Digital Rights Management is an issue driven by the market. At this point of DRM market development, the interviewees find it difficult to envisage an integration of the DRM issue in the eTEN programme. It will depend on the DRM implementation issues positioning. DRM implementation should be driven by market players. The DRM market is very dynamic, and a lot of diverse DRM solutions are available on the market, thanks to the dynamics of this market sector.

Among the unsolved issues, interoperability remains critical as at the moment, different standards coexist for different technologies: mobile, video, broadcasting, etc. The point here is to find a consensus between market players, more than financing or supporting DRM projects as such.

Even as regards the issue of management of licences at pan-European level, the issue is not easy. Currently, copyrights are under national competency and licences have to be negotiated in each Member state. Even if the possibility could be provided to negotiate with one Member State a unique licence that would be valid in all other Member States, the topic still seems to be too sensitive.

3. The Policy Objective

3.1 The objectives of the programme

As stated earlier, the current overall objectives for the eTEN programme of facilitating the transition towards the information society, improving competitiveness and strengthening the internal market, strengthening economic and social cohesion, and developing new growth-area activities (cf. section 2.2) remain valid. However, these are global objectives which provide little direction for the programme.

It is also clear that there are still significant gaps and needs to be addressed both within the areas currently covered by the programme and in other, related, 'e-domains'. However, the current 'silo' approach of Projects of Common Interest should be abandoned in favour of a broader definition of eSolutions/eServices and interoperability. The programme should encourage the integration of more diverse and, in particular, cross-cutting issues – e.g. trust & security, cohesion, legal issues – in a broader spectrum of activities, where Member States and experts are involved on a continuous basis in identifying the needs that should be addressed at any particular time.

Based on the experiences and results from the implementation of the programme to date, the focus on public sector needs should be further emphasized and strengthened.

Thus, a key objective of the future programme could be: *To contribute to the deployment of eServices (or eSolutions) addressing key needs of the public sector, as well as interoperability of services and systems across borders, thus helping to reduce the barriers for citizens and companies to participate fully in the internal market and benefit from an efficient and effective delivery of public services.*

3.2 What can be achieved?

What can actually be achieved in terms of contributing to the overall objectives for the programme depends on a number of factors, in particular the programme strategy (confer the next chapter on policy options) and, of course, the budget of the programme.

There are some preliminary indications that the budget of the programme may be considerably enlarged, perhaps to as much as three or four times the current annual budget of approx. 40 million EUR. This, of course, puts the programme in a position to achieve much greater impacts than with the current budget.

However, even with a considerably larger budget, substantial coverage with high impact on all the areas currently covered by the programme is not realistic. The investments to be made are simply too large, even if the programme continues to focus only on validation and initial deployment.

What the programme can hope to achieve within a programme period of 3-5 years, is substantial impact on the deployment of solutions to a *limited* number of 'problems' of key importance, if considerable commitment and financing leverage from Member States is obtained.

4. Policy options and instruments

4.1 Overall policy options

In this chapter, a number of different policy options for a future eTEN programme are described. The key policy options differ on a number of dimensions:

- The types of projects or activities supported
- The degree of Member State and/or expert committee involvement in identification and selection of projects
- The financing modalities

The different policy options or programme strategies that have been identified through interviews with stakeholders and discussions with the High Level Expert Group are:

1. Not continuing the programme
2. No change – continuing the programme in its present form
3. Continuing as a 'normal' bottom-up grant scheme, but with reinforced project selection and more focus on deployment
4. Top-down approach with projects/needs defined by expert committees and project selection by procurement/calls for tender
5. Open Method of Co-ordination

In addition to these 'pure' options, there are a number of possibilities for combining strategies, which will be discussed after the presentation of the different options.

4.2 Option 1: Not continuing the programme

Not continuing programme at all is, of course, an option. The programme has so far not produced significant impacts on a broader scale. However, as found in the intermediate evaluation, the programme has potential for larger impacts in view of the strategic reorientation and improved management and implementation after 2002, which form the basis for expecting better impacts from the projects implemented after that date. At the same time, the programme has a unique pre-market positioning. Not continuing the programme would leave a considerable gap between research and market deployment, which is not covered by other Community programmes. For these reasons, a discontinuation of the programme is not recommended.

4.3 Option 2: No change

The second option is to continue the programme in its present form. However, even though the programme does help fill the gap between research and market deployment in its present form, it could be more effective in doing so. This is mainly due to the characteristics of the projects and the way they are selected, and the large number of issues addressed which result in a rather fragmented effort with little impact on key issues. Thus, it is not recommended to continue the programme without changes.

4.4 Option 3: Improved bottom-up grant scheme

The third option consists of continuing the present type of programme, that is, a 'traditional' bottom-up grant scheme, but further strengthening the evaluation criteria and thus the types and characteristics of projects supported, and with more concrete focus on deployment and replication.

A number of the key recommendations from the Intermediate Evaluation report concern some of the changes that could be made in order to make the grant scheme model more effective:

- *Strengthened evaluation criteria* for selection of projects, in particular as regards stronger project consortia with required participation of end users committed to deployment (especially public administrations) in a key role, and stricter requirements for formulation of the business case for the project.
- *Giving priority to replication* of services that have demonstrated their sustainability and utility in a national context, over more innovative services which have not yet demonstrated their potential in real life conditions
- *Integrating market validation and deployment in multi-phase projects*, with funding of phase 2 (and possible subsequent phases) being conditional on successful completion of the previous phase, with a clear stop/go decision in between based on a thorough review by external experts. Market validation projects without a firm commitment to deployment would not be an option.

As these recommendations indicate, the grant scheme would have to focus on projects which are relatively advanced, have a sound business case/deployment plan, are very close to being ready for deployment, and with less emphasis on innovation. In this type of approach, the scheme may also tend to focus more on cross-border (e.g. regional) replication and interoperability. Preferably, this approach should be combined with a revision of the Financing Regulation, allowing for a larger degree of co-financing of the deployment phase than the current 10%. This may mean – even with an enlarged programme budget – that fewer projects can be supported, but the strategy can be expected to have a considerably larger impact in terms of concrete deployment results than the current programme.

A lot of the current eTEN projects would not fulfil the criteria outlined above, and this applies also to many of the projects originating from IST. The selection procedure would therefore benefit from being supplemented with a 'pre-proposal' screening combined with access for proposers to advice and feedback on business cases, network and consortium building etc. The programme could provide such consultancy through either external consultants via a Support Action-type project or a permanent expert committee appointed to this task.

4.5 Option 4: Top-down approach

The reinforced project selection and preparation as outlined above is still based on a 'supply-driven' approach and does not in itself solve the problem of how to identify the key issues to be addressed. Such identification of key issues would require a much more comprehensive involvement of Member States (including regional and local authorities) and/or expert committees. The 'top-down' approach addresses this problem and completely changes the way in which projects are selected and financed.

A model for the top-down approach was outlined by the High Level Expert Group in the following way:

1. An Action Plan is prepared by an expert committee, identifying one or more rather narrowly defined specific needs (issues) to be addressed within a particular domain, e.g. eGovernment.
2. The plan is circulated to Member States (sectorial ministries or other relevant level, e.g. regional authorities) for feedback and subsequently commitment to co-funding of deployment in a network action at European level. If co-funding commitment from a minimum number of Member States (e.g. 3-4) cannot be obtained, the Action Plan is either abandoned or redrafted according to the feedback received (two or more rounds of feedback and redrafting may be necessary). Co-funding parties can be national, regional or local administrations, or other public bodies.
3. Projects are selected via Call for Tenders or Call for Proposals within the narrowly defined area

This type of approach can be varied in a number of ways:

- The organizational unit preparing the Action Plan can be a committee composed of independent experts, or it can be a committee based on representatives appointed by Member States, whether these be 'experts' or representatives of the relevant level of public administrations
- Member States commitment is important, and real commitment is only ensured by a financial commitment, which can be of varying size. The model could, in principle, also work with non-financial commitment (endorsement) by the Member States of Commission-funded market validation projects, but this is likely to reduce the effectiveness of the approach.
- Depending on the degree of commitment obtained from Member States and the specificity of the Action Plan prepared, the projects can be selected either through Calls for Tenders (i.e. an IDA-type public procurement approach) or through Calls for Proposals, applying an evaluation process similar to that used at present, but within much more narrowly defined areas.
- Innovative solutions may be applied as a result of this type of approach, but in many cases, replication of existing solutions will be a more effective strategy.
- The size and number of projects funded by the programme can vary, but in order for this type of approach to be cost-efficient and manageable, projects would tend to be much larger, and consequently fewer, than is the case today – maybe as few as 2-3 projects initiated annually.

4.6 Option 5: Open method of co-ordination

The so-called Open Method of Co-ordination (OMC) is a completely different strategy, and would mean abandoning the project approach employed by the current eTEN programme. Under the OMC, the role of the Commission would be to support policy-learning committees, good practice exchange, development and monitoring of benchmarks etc. The strategy can involve public administrations at different levels, from national to local, depending on the type of issues addressed.

The ingredients of the OMC were spelled out in Lisbon by the European Council and include:

- Fixing common guidelines for national policies in various policy areas – e.g. employment policies, education and training for employability, flexible la-

bour markets, aging and sustainable pension systems, social exclusion – with dates for their implementation;

- Developing indicators (benchmarks) of national performance as a means for comparing best practice;
- Asking countries to adopt national action plans to implement the common guidelines
- Undertaking joint monitoring and review of results, thus bringing peer pressure to bear in order to sustain progress

The Commission considers that the OMC use should be limited to cases where harmonising legislation and binding Union intervention would be inappropriate, because the subject touches closely on national identity and culture, or national arrangements are so diverse and complex that harmonisation would be 'out of all proportion to the objectives'.

Another aspect to consider is the administrative burden of benchmarking. For the eEurope Action Plan, the general experience with benchmarking is that it has been an effective policy tool. However, because of its administrative burdens, in the recent Council Conclusions on the eEurope Mid-term Review Communication, Member States expressed their will to retain but not expand the current set of benchmarking indicators.

The experiences with the first application of various versions of the OMC have been mixed⁵; it is a very demanding type of strategy and requires great commitment and effort on the part of both the Member States and the Commission, with uncertain results. Undertaking this type of strategy as the main function of a future eTEN initiative would require a complete reorganisation of the initiative and its focus. The role of the Commission would consist in being a facilitator of co-operation between Member States (through a number of committees or working groups), drafting guidelines and policy papers, developing and monitoring benchmarks, undertaking reviews and studies to support the process, etc.

Whereas a full-scale 'OMC strategy' may be a somewhat drastic change from the current strategy, a more realistic option would be to implement elements of the strategy alongside other types of instruments.

One of these elements could be to set up and manage (i.e. function as secretariat) initiatives for good practice exchange between Member States. Such good practice exchange could take the form of working groups focusing on specific issues, in particular where eTEN (or other) projects offer solutions and practical experiences. An example could be exchange of experiences concerning adoption of electronic signatures in local or regional administrations, with representatives of the relevant levels of Member State administrations participating. The objective of the work would (in this particular case) be to identify good practice, prepare guidelines for implementation and provide advice and feedback for administrations initiating implementation of the identified solution(s).

4.7 Assessment of the different policy options

The table on the next page compares the assessment of the different policy options on various dimensions, including relevance, effectiveness, etc. Op-

⁵ Cf. e.g. Claudio M. Radaelli, *The Open Method of Coordination: A new governance architecture for the European Union?*, Swedish Institute for European Policy Studies, March 2003 (http://www.sieps.se/_pdf/Publikationer/CR20031.pdf)

tion 1 – not continuing the programme – is not included since, for obvious reasons, there will be no relevance etc. to consider.

The assessment also includes the potential interaction with other existing and planned Community interventions. The most relevant of these is IST and IDABC, which are the programmes closest to eTEN in terms of areas covered and their place in the 'value chain' from research to implementation. Although co-ordination and interaction with other programmes can take many forms regardless of which overall strategy option is chosen for eTEN, the different strategies for organisation and implementation of the programme lend themselves naturally to different kinds of co-ordination.

Figure 4-1 Assessment of policy options

	Option 2: No change	Option 3: Bottom-up scheme with reinforced selection	Option 4: Top-down approach	Option 5: Open method of co-ordination
Relevance to addressing key issues	Low in terms of coverage, impacts limited and fragmented	Medium, achieved through more stringent selection of projects	High in selected areas/key issues	Potentially high, but depending on MS commitment
Effectiveness in achieving the objectives	Low – limited impact	Medium, achieved through more stringent selection of projects	High in selected areas/key issues	Unknown; depends on MS Commitment
Coherence with wider economic, social and environmental objectives	Medium, ensured through evaluation criteria	Medium, ensured through evaluation criteria	High in selected areas/key issues	High
Inter-action with other existing and planned Community interventions (esp. IST and IDABC)	Some downstream co-ordination with little effect	Depends on approach taken; more upstream co-ordination could improve effectiveness	Possibility for high degree of upstream co-ordination through committee system	Exchange of best practice etc. can be co-ordinated or even co-managed with relevant programmes

4.8 Mixing instruments and strategies

The options described above can each be implemented exclusively as the future eTEN programme strategy, but a more realistic policy option for the programme may be to mix different instruments and strategies. The more advanced and innovative approaches have potentially higher impacts, but it would be risky to completely abandon the project-based 'bottom-up' type of approach for new strategies such a top-down approach or Open Method of Co-ordination. It would be too disruptive for the management and operation of the programme, and completely new types of approaches will take some trial and error before they begin producing results.

The optimal approach would more likely be to continue devoting part of the budget to the project-based bottom-up strategy - implementing some of the recommendations for improvements to the current approach as outlined above and in the intermediate evaluation report – while the top-down ap-

proach and/or elements of the Open Method of Co-ordination are being implemented.

Continuing with the bottom-up strategy as part of the programme, even if other strategies turn out to be successful, will also have the advantage that the bottom-up, calls for proposals type of instrument could focus more on innovative, smaller projects, while other approaches would be reserved for addressing identified needs, often in large-scale projects, and to a larger extent based on replication.

Applying more than one type of instrument will of course put greater strains on the management and co-ordination of the programme, not only in practical terms but also in terms of ensuring coherence between the different types of activities. However, there are potentially good synergy effects through co-ordination of activities. For instance, the impacts of successful innovative "bottom-up" projects could be enhanced through setting up OMC-type best practice working groups to disseminate the results.

5. Impact Analysis

5.1 Expected levels of impacts

The policy options described in the previous chapter can be considered as different ways to work towards the same overall objectives. It is not possible on the basis of the current information to quantify the expected impacts, but some preliminary assessments of the relative level and scope of the different policy options can be made, based on the way these options address the “key issues” as well as the experiences with the programme so far.

The differences that can be expected in the achievements of impacts are summarised in the table below. As before, the option of ‘no programme’ is not considered in this table, but the ‘mixed strategy’ of combining policy options is included.

Table 5-1 Relative expectations for impacts of different policy options

Policy option	Level and scope of impact expected
Option 2: No change	Small impact on individual projects as evidenced by intermediate evaluation
Option 3: Bottom-up scheme with reinforced project selection and deployment focus	High impact on individual projects due to higher requirements for projects and deployment focus in project set-up, but impact is likely to remain fragmented
Option 4: Top-down approach	Medium/high in selected areas where key issues are clearly identified, and possibly reinforced by Member State co-financing
Option 5: Open method of co-ordination	Potentially high in selected areas, but depending on Member States’ commitment and the chosen methods of co-operation. Impacts may take some time to materialize.
Mixed: Combination of bottom-up scheme and top-down or elements of OMC	Medium/high impacts on key issues if addressed e.g. by top-down approach, and potential good impacts on individual ‘bottom-up’ projects. Possibility for enhanced impacts through synergy effects between different instruments.

5.2 Pros and cons of the policy options

In the table on the next page, the main advantages and disadvantages (pros and cons) of the described policy options are summarised, drawing on previous discussions and overview tables.

Table 5-2 Pros and cons of policy options

	Pros	Cons
Option 2: No change	<ul style="list-style-type: none"> ▪ Well-known instrument 	<ul style="list-style-type: none"> ▪ Small Impact ▪ Fragmented coverage of objectives ▪ Low level of addressing key issues
Option 3: Bottom-up scheme with reinforced selection	<ul style="list-style-type: none"> ▪ More effective project selection and implementation ▪ Well-known instrument ▪ High impacts on project issues 	<ul style="list-style-type: none"> ▪ Relatively fragmented coverage of objectives ▪ May not address key issues
Option 4: Top-down approach	<ul style="list-style-type: none"> ▪ Addresses key issues with expected high impact ▪ Involvement of Member States ▪ Good opportunities for high degree of up-stream co-ordination with other programmes 	<ul style="list-style-type: none"> ▪ A rather technocratic approach, providing less room for innovative solutions ▪ Committee system can be cumbersome and time-consuming ▪ Management committee type (Member States representatives) may tend to work for national interests rather than for a "common approach"
Option 5: Open method of co-ordination	<ul style="list-style-type: none"> ▪ High level of Member State involvement ▪ Addresses key issues ▪ Benchmarking and good practice exchange rather than projects ▪ Trans-European coverage 	<ul style="list-style-type: none"> ▪ Effectiveness uncertain ▪ May take long time to produce results ▪ Risk of low MS commitment
Mixed: Combination of bottom-up scheme and top-down or elements of OMC	<ul style="list-style-type: none"> ▪ 'The best of both worlds' ▪ Possible to both address key issues with high impact + experiment with innovative services ▪ Possible synergy effects between different instruments 	<ul style="list-style-type: none"> ▪ Programme becomes more complicated; higher demands on management & co-ordination of instruments

5.3 New Member States

Differences in ICT uptake and adoption between the 'old' Member States and the new members that acceded to the European Union in 2004 are sometimes referred to as a 'digital divide' or information society gap, and the question is to what extent this puts other requirements on the eTEN programme in addition to the relatively straightforward task of having to deal with 25 countries instead of 15.

A specific focus of eTEN on new Member states, aiming at reducing an information society divide, was not perceived by the members of the High Level Expert Group as relevant. The idea of an IS divide between the new and the 'old' Member States was not shared. Some of the new Member States are

actually quite advanced as regards ICT uptake when compared with several of the old Member States.

The main task is to ensure that the new Member States are involved in the programme on an equal footing with the old EU-15, and in that respect, the intermediate evaluation found that the programme is well on its way. The recent 2004 evaluation of proposals (the first in which the new Member States could participate on an equal basis) was encouraging, with 16% of all project partners originating from the new Member States.

Adopting a programme strategy which increases the involvement of all Member States in addressing key issues, such as the top-down approach or (elements of) the Open Method of Co-ordination is thus seen as the best way of ensuring the same level and types of impacts in the new Member States.

5.4 Alternative policy options?

The policy options described in this report represent a broad spectrum from rather traditional, Commission-driven project grant schemes to supporting Member States networking, good practice exchange and 'governing by benchmarking'.

There are, of course, a number of other options, including:

- *National focus:* Some interviewees suggested that the basic notion of a trans-European programme could be given up and that the programme instead could focus on the national level, co-funding national, regional, or local initiatives to promote eServices and interoperability in the public sector.

Such an approach could possibly be effective within national or local contexts, but would pose serious challenges as regards the principles of subsidiarity and additionality. The approach could, however, be combined with activities promoting exchange of best practice solutions identified through the projects at European level in order to maintain a trans-European aspect.

- *Risk capital participation:* The programme could be transformed into a revolving fund providing venture capital to projects, possibly in co-operation with the European Investment Bank. The issue was explored by programme management some years ago and was also considered in the previous intermediate evaluation of the programme in 2000, where a number of suggestions for possible models were put forward, such as: Associate to the present project evaluations and reviews risk-capital funds that would be ready to intervene as soon as a project has something to deploy. A committee could choose the projects and joint staff with, for instance, the EIB (European Investment Bank) could manage the following of the project / enterprise with risk-capital participation from the EU. The Commission could participate as an initial shareholder providing seed capital with a clear exit strategy once the project matures.

Even if such a strategy is legally an option for the Commission, it does have a number of drawbacks. First of all, the Commission bureaucratic apparatus is hardly designed for this type of operation, although the problem might be solved by co-operating with the EIB. Secondly, the Commission would enter into direct competition with commercial venture capitalists. Thirdly, and perhaps most important, this type of operation is mainly directed at services with a significant commercial potential, and may not be very suitable for a programme focusing on the public sector, even though services for

the public sector may of course be operated by private entities on a commercial basis.

- *Effecting change through legal instruments*: Using legal requirements (directives) to bring about desired changes is often the most effective instrument, since it obligates the parties concerned to make the necessary changes and investments. Pushing change through legislation will, however, not be feasible if the technical solutions are not in place, which is exactly why interventions such as eTEN are necessary. Furthermore, legal instruments will only be relevant in some of the areas addressed by eTEN, and a feasible option in even fewer areas (if any). Choosing this option – even if it were realistic – for achieving the objectives currently addressed by eTEN instead of a programme instrument in whatever form would effectively mean the end of the programme.

Annex 1: References and sources

Interviews:

European Commission:

- Gerald Santucci (SME – ePayment)
- Jorge Grazina (ePayment)
- Anne Troye (DRM)
- Paul Timmers, IST
- Bernhard Schnittger, IDA

Other organisations:

- Ed Steinmueller, SPRU (University of Sussex), author of Oxford UP volume Mobilizing the Information Society
- Dr. M.J. Poelmans, eGovernment Program Manager - Ministry of the Interior (The Netherlands)
- Gabriella Cattaneo , International Project Coordinator, Databank
- Yves Gassot – IDATE’s general director
- Joan-Ramon Marsal (eGovernment)
- Stefano Kluzer, Scientific Coordinator of the eGovernment Regional Competence Centre (Italy)

Members of High Level Expert Group:

- Peter Bates, PJB Associates (eLearning)
- Oliver Blank, ZVEI (eGovernment)
- Claudio Dondi, Scienler (Elearning)
- Charles G. Goldfinger, Global Electronic Finance (eTrust)
- Richard Hawkins, TNO-STB (Generalist)
- Carl Holmberg, Swedish Agency for Flexible Learning (eLearning)
- Peter Mambrey, Fraunhofer FIT (eInclusion)
- Denise Silber, Basil Strategies (eHealth)
- Wendy Sudbury, Cambridge Management Group (Generalist)
- William Vanobbregghen, Groupement des Cartes Bancaires (eTrust)
- Panayotis Vassilakis, Regional Health System of Kyklades (eHealth)
- Chris Yapp, Microsoft (eInclusion)

Documents:

Presidency Conclusions, Lisbon European Council, 23 and 24 March 2000.

A European initiative for growth: Investing in networks and knowledge for growth and employment, Interim Report to the European Council, COM(2003) 579

Challenges for the European Information Society beyond 2005, COM(2004)757

Rethinking the European ICT Agenda: Ten ICT-breakthroughs for reaching Lisbon goals, PriceWaterhouseCoopers/Netherlands Ministry of Economic Affairs, August 2004

eEurope 2005 Mid-term Review

eEurope 2005 Action Plan

eEurope Advisory Group: key recommendations on broadband coverage in Europe (2004)

European Telecom Roundtable: Enhancing European Competitiveness by achieving the broadband vision – 2004

High Level Conference on future ICT Policies - Main Conclusions - Amsterdam 30 September 2004

Digital World 2004, The European way to think the Digital World - IDATE

EFN Report: The Euro Area and the Lisbon Strategy, Autumn 2004 (<http://www.efn.uni-bocconi.it/reports.htm>)

Decision No 1336/97/EC of the European Parliament and of the Council of 17 June 1997 on a series of Guidelines for trans-European telecommunications networks

Decision No 1376/2002/EC of the European Parliament and of the Council of 12 July 2002 amending Decision No 1336/97/EC on a series of guidelines for trans-European telecommunications networks

Claudio M. Radaelli, The Open Method of Coordination: A new governance architecture for the European Union?, Swedish Institute for European Policy Studies, March 2003 (<http://www.sieps.se/pdf/Publikationer/CR20031.pdf>)

EITO (2003, 2004): European Information Technology Observatory

Mansell, R. and W.E. Steinmueller: Mobilizing the information society – strategies for growth and opportunity. Oxford University Press 2000

Mansell, R.: Inside the communication revolution – Evolving patterns of social and technical interaction. Oxford University Press 2002

Information technology outlook 2004; Policy developments and trends.

SIBIS: Statistical indicators – Benchmarking the information society 2004

IDAII: Mid-term evaluation 2002 – TietoEnator

IDA newsletters (<http://europa.eu.int/ida>)

Value Creation in eGovernment projects - An exploratory analysis conducted for the Danish presidency of the eGovernment workgroup of the Directors General

eGovernment in Europe: the State of Affairs – Christine Leitner 2003

Final Evaluation of the Community Action Programmes on Public Health – Deloitte & Touche 2003

The case for eHealth: High-level conference on eHealth – Denise Silber 2003

Final Evaluation of the Community Action Programmes on Public Health: SATS – empirica 2000

The emerging European Health Telematics Industry: market analysis –
Deloitte & Touche 2000