

**Study supporting the formulation of
an evaluation and monitoring
strategy for the
CIP ICT PSP**

Final Report

Rand Europe

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Preface

This study was commissioned by the European Commission Directorate General for Information Society and Media (DG INFSO), in response to tender no DG INFSO/C3/RB D (2006)D/730389.

The study supports the formulation of an evaluation and monitoring strategy for the (new) ICT Policy Support Programme within the Competitiveness and Innovation framework Programme. The strategy embraces challenges beyond those facing established programmes or those operating in isolation. Although superficially the new programme is a natural descendant of predecessors such as eTEN and eContent, the ‘changes’ are likely to be fundamental and substantial; lessons from these prior programmes, though useful, will be far from sufficient.

The strategy was designed in conformity with EC norms and guidelines for evaluation and internationally accepted best practice standards and also in a way that fits in with evaluation activities in other elements of the CIP, the i2010 policy framework and other programmes, particularly the IST 7th Framework programme. The strategy is intended to give a clear and understandable picture of CIP ICT PSP effectiveness and efficiency and valuable input to its continued development.

The project documented in this report supported development of a coherent evaluation and monitoring strategy for the ICT Policy Support Programme through a number of activities:

- An analytic review of policy documents relating to the Programme basis (e.g. EU Innovation and Information Society policies and specific CIP monitoring and evaluation requirements);
- Development and presentation of future perspectives for a future CIP monitoring and evaluation strategy;
- Support and assistance to the EC in developing a prospective multi-year evaluation framework covering required evaluations and the associated evidence base; and
- Validation and finalisation of the strategy in light of key stakeholder feedback.

The RAND team worked and report independently, but in close liaison with DGINFSO staff developing the Work Programme and the evaluation strategy, relevant personnel from other DG’s involved with the CIP Programme and a joint DG INFSO (C2 and H)/ DG ENTR Steering Committee appointed for the purpose.

Summary

This is the final report from the RAND Europe study concerning the development of an evaluation and monitoring strategy for the ICT Policy Support Programme (ICT-PSP) within the Competitiveness and Innovation Framework Programme¹ (CIP).

The legal basis for the CIP stipulates that the Commission shall regularly monitor the implementation of the Framework Programme and its specific programmes². In particular there shall be an interim evaluation of the Framework Programme by 31/12/2009 and a final evaluation by 31/12/2011. These evaluations, and the evaluation and monitoring strategy within which they will operate, should, of course, be made in accordance with best practice both in the EU and globally, and be conformable with the evaluation and monitoring of other related programmes.

Recommendations are made for the detailed content of the evaluation and monitoring (E&M) strategy. Key recommendations include the following:-

- The E&M strategy should utilise a generalised form of logical framework (logframe) and be in conformity with the EC Guidelines for Evaluation³.
- Evaluation should be undertaken at each of the following levels:
 - The individual proposal/project level.
 - The portfolio of projects sharing a common central theme (i.e. an action line or sub-theme within the main themes of the Work Programme)
 - The ICT-PSP programme level
- The set of indicators used in the Impact Assessment of the ICT-PSP should be used for evaluation at programme level, and additional indicators should be defined for evaluation at project and portfolio (sub-theme) levels.
- The definition of appropriate indicators for monitoring and evaluation at the 'project' and 'portfolio' levels should be completed prior to the first evaluation of proposals.
- Interim evaluation should consider the evidence for sectoral market failure at each implemented portfolio (sub-theme) level, in order to inform any proposed Work

¹ Hereafter referred to as the ICT-PSP and the CIP respectively.

² Decision of the European Parliament and of the Council No 1639/2006/EC 24 October 2006

³ European Commission (2004) Evaluating EU Activities – A practical guide for the Commission Services, Office for Official Publications of the EC, Luxembourg.

Programme revision; and final evaluation should review the evidence for market failure at programme level, in order to inform deliberations on any follow-up programme.

- Monitoring of proposal evaluation should *inter alia* assess compliance with the ‘Practical Guide to contract procedures for EC external actions’ of 2006 or as subsequently amended.
- All funded activities (projects) should be subject to review every year. Project level indicators should be collected in association with these reviews.
- To support interim evaluation the E & M unit should procure (for action in the period 1st January 2008 to 31st August 2008):
 - A study of the state of the market within each funded sub-theme identifying types of market failure and tracking their symptoms;
 - A survey of perceptions among unsuccessful proposers in the first Call;
 - A survey of SME involvement and benefits; and
 - A case study exercise identifying and illustrating potential trajectories of development towards long-term socio-economic benefits.
- To support final evaluation, the E & M unit should procure (for action in the period 1st January 2010 to 31st August 2010):
 - A study of the state of the market within each funded sub-theme and additionally at programme level identifying types of market failure and tracking their symptoms;
 - A study of the perceptions of unsuccessful proposers in the 2nd Call; and
 - An indicator based study of macroeconomic and sectoral development.
- The ICT-PSP interim evaluation should commence on 1st September 2008, present its conclusions by the end of March 2009 and, with one month for final editing of the report, complete work on 30th April 2009.
- Data collection activities should begin 1st January 2008, and all prior studies for the interim evaluation be undertaken in the period 1st January 2008 to 31st August 2008 in order that results should be available in a timely fashion for the evaluation team. They should not start prior to this, in order that they should sufficiently reflect the effects of activities.

- The ICT-PSP evaluation should commence on 1st September 2010, present its conclusions by the end of March 2011 and, with one month for final editing, complete work on 30th April 2011.
- All prior studies for the final evaluation should be undertaken in the period 1st January 2010 to 31st August 2010 in order that results should be available in a timely fashion for the evaluation team. They should not start prior to this, in order that they should sufficiently reflect the effects of activities.

Annexes also contain more extensive background material; methodological development and a bibliography of source material. Detailed recommendations are made in the full report for methods to be used; annexes contain detailed recommendations for questions to be asked at evaluations.

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Abbreviations

Abbreviation	Full term
CIP	Competitiveness and Innovation Programme
DG	Directorate-general (of the European Commission)
E&M	Evaluation and monitoring
EC	European Commission
eContent	European Digital Content on the Global Networks Programme
ENISA	European Network and Information Security Agency
eTEN	Trans European Network for Telecom Programme
Eurostat	Statistical Office of the European Communities
i2010	The European Commission's strategic policy framework laying broad policy guidelines for the information society and media in the years up to 2010
ICT	Information and communications technologies
ICT-PSP	ICT Policy Support Programme
ICT-RTD	Successor to IST-RTD programme
IST	Information society technologies
IST-RTD	Support programme for RTD activities in IST-related areas
MODINIS	Multiannual programme for the monitoring of the eEurope 2005 action plan, dissemination of good practices and the improvement of network and information security
MS	Member states (of the European Union))
NREN	National research and education network
OECD	Organisation for Economic Co-operation and Development
RFID	Radio Frequency Identification
RTD	Research and technology development
SMEs	Small- and medium-sized enterprises

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1 The ICT-PSP and its Context

In this section we identify the context of the evaluation strategy for the ICT-PSP, most particularly in respect of the i2010 initiative and of the Competitiveness and Innovation Programme (CIP).

1.1 The i2010 Initiative

In June 2005 the Commission launched the "i2010" (European Information Society 2010) initiative, to foster economic growth and jobs in the information society and media industries. i2010 is a comprehensive strategy for deploying and modernising EU policy instruments that encourage development of the digital economy: regulatory instruments, research and partnerships with industry. The ICT-PSP is one component of this strategy; ICT-RTD in the Framework Programmes, which is also a significant component of i2010, is a particularly important complement for ICT-PSP.

The three pillars of the i2010 strategy are:

- The Single European Information Space
- Innovation and investment in ICT research
- Inclusion, better public services and quality of life

The Single European Information Space

The 2006 review of the EU regulatory framework for electronic communications considered reforms in order to make markets more competitive, stimulate investment and innovation and hence enhance consumer benefits. As part of this overhaul, the Commission reviewed its recommendation on the 18 wholesale and retail markets for electronic communications products and services that can be regulated *ex ante* under EU rules to promote competition. It is also preparing a regulation to reduce charges for using a mobile phone abroad. The Commission also presented proposals for reform of spectrum management to facilitate access to radio frequencies for new technologies and applications, and will assess developments with regard to mobile TV.

The convergence of digital content, networks and devices offers a wide range of opportunities to businesses and benefits to consumers. However, many people are still reluctant to use information society and media services, due to security and privacy concerns. In 2006, the Commission examined ways to address these concerns.

Innovation and investment in ICT research

A new form of partnership for research activities has been established through nine European Technology Platforms in information and communication technology (ICT) fields that ensure closer coordination between R&D programmes run by the Commission and EU Member States.

ICTs also are an important subject for European Standardisation, which forms the subject of an Action Plan for reviewing standardisation policy in 2006 and 2007. Member States have launched a discussion on pre-commercial public procurement of innovation at EU level to promote research and innovation in ICT. Such developments can have a disruptive impact on companies and markets, as is already evident in manufacturing and retailing with the increasing take-up of Radio Frequency Identification (RFID). The Commission has recently made policy proposals on this issue.

i2010 addresses the need to remove barriers to adoption of ICT by businesses. In 2006, the priority is to identify and analyse new trends and to assess the need for additional policy measures.

Inclusion, better public services and quality of life

The use of ICT in public services can help make public finances fiscally sustainable and to simplify administrative procedures. The eGovernment Action Plan adopted in April 2006 lays out a road map for achieving for a range of targets for eGovernment by 2010, and the Commission has issued a Staff Working Paper on eHealth interoperability in March 2006, which will be followed by a Recommendation in 2007.

In addition, ICT can help to reduce the environmental impact of industry and society. The Commission will propose an ICT "flagship" project for 2007 to harness the potential of ICT for sustainable growth, focusing on energy efficiency and waste reduction.

1.2 The Competitiveness and Innovation Framework Programme (CIP)

It is widely accepted that investing in innovation is key to unlocking Europe's competitiveness and thereby attaining the Lisbon goals of transforming the European Union into a competitive and knowledge based economy, capable of sustainable economic growth. The Competitiveness and Innovation Framework Programme (CIP) and its specific programmes are key instruments of the EU's competitiveness and

innovation policy adopted on 09/11/2006 by decision of the European Parliament and of the Council as well as of the i2010 framework.

The CIP will bring together specific Community measures in the field of entrepreneurship, SMEs, industrial competitiveness, innovation, information and communication technology (ICT), environmental technologies and intelligent energy. These measures have until now been regulated by separate Council Decisions. The single framework decision establishes: a set of common objectives; the total budgetary envelope for pursuing those objectives; different types of implementing measures; and the arrangements for monitoring and evaluation and for the protection of the Communities' financial interests.

The CIP will complement the Community framework programme for research and technological development, in that it will extend 'downstream' to deal with the wide deployment of innovations. It will embrace both non-technological and technological innovation, where it has moved beyond the final demonstration phase and is ready for market deployment (that is, for the testing of innovations for application in markets). It will also cover market replication of existing technologies to be utilised in new and innovative ways.

The common objectives of the CIP will be pursued by three specific programmes entitled: "Entrepreneurship and Innovation;" "ICT Policy Support;" and "Intelligent Energy – Europe".

(1) The Entrepreneurship and Innovation Programme will support, improve, encourage and promote access to finance for the start-up and growth of SMEs; cooperation via European business support services for SMEs; and economic and administrative reform. It will also provide for action to support, improve, encourage and promote innovation in enterprises (including eco-innovation), and innovation governance and culture.

(2) The ICT Policy Support Programme will provide for action to develop the single European information space and to strengthen the internal market for information services; to stimulate innovation through a wider adoption of and investment in ICT; and to promote an inclusive information society.

(3) The Intelligent Energy Europe Programme will provide for action to foster energy efficiency and the rational use of resources; to promote new and renewable energy sources; and to support these energy aspects in transport.

This study concentrates on the Evaluation and Monitoring Strategy for the ICT Policy Support Programme (ICT-PSP) within the broader context of the CIP (and its accompanying Evaluation and Monitoring Strategy).

1.3 The ICT-PSP in Context

The ICT-PSP thus does not exist in isolation. It is a core part of the CIP (and indeed its evaluation and monitoring will contribute to the evaluation and monitoring of the CIP as a whole); it is also a part of the i2010 initiative and will contribute materially to the attainment of the objectives of that initiative, within which it particularly complements ICT-RTD in the 7th Framework Programme. Additionally it parallels and in due course embraces actions in the field of eContent and also complements national and regional programmes including actions supported by EU structural funds.

The ICT Policy Support Programme will to have a budget of 728 M€ for the period 2007-2013. It will support the wider uptake of ICT in Europe including particularly the priorities expressed within the i2010 initiative. It will drive and stimulate innovation through ICT use and ensure that ICT progress is transformed into benefits for all European citizens, business, industry and governments. In doing so, the programme will play a major role in stimulating the development of lead markets for innovative ICT services⁴. An evolutionary change will occur in 2009 when the activities of the newly established multi-annual *eContentplus* programme, intended to make digital content in Europe more accessible, usable and exploitable, are absorbed into the ICT Policy Support Programme (PSP). The deployment and best use of innovative ICT based solutions will be stimulated in particular for services in areas of public interest. A further influence on the shaping of the ICT PSP arises from the mid-term evaluation of the *eTEN* (Trans European Network for Telecom) programme which recommended the subsequent demand driven approach to Community intervention supporting trans-European services in areas of public interest. The ICT-PSP also carries forward work previously supported under the *MODINIS* programme and, of course, takes place within the i2010 strategy which, inter alia, will provide continuing support for work on the security of ICT networks and services currently managed by the European Networks of Security Agencies. In addition the *eGovernment* and *eHealth* Communications from the Commission and related Council conclusions and the Riga

⁴ The need for which was highlighted in the Aho report, "Creating an innovative Europe" January 2006 (<http://europe.eu.int/invest-in-research/>).

Ministerial Declaration (12 June 2006) called for a pan-European drive to use ICT to help people overcome economic, social, educational, territorial or disability-related disadvantages; called for increased effort in innovation, good practice exchange, and interoperability; and identified the need to increase synergies among related EU programmes. The ICT-PSP is aimed at promoting innovation in business processes, services and products enabled by ICT, notably in SMEs and public services, taking into account skills requirements. It is expected to stimulate debate on emerging ICT trends, communication and awareness measures promoting the opportunities and benefits that ICT brings to citizens and businesses. Lastly, the programme will establish actions on the promotion of an inclusive information society, more efficient and effective services in areas of public interest and improved quality of life; while widening ICT accessibility and digital literacy, reinforcing trust and confidence as well as improving the quality, efficiency and availability of electronic services in areas of public interest, including interoperable pan-European or cross-border public services.

1.4 Themes Within the ICT-PSP

Encapsulating many of the issues identified in 1.3. above, the initial Work Programme for the ICT-PSP focuses on a particular set of objectives which it states thus: - *The ICT-PSP will help overcome the hurdles hindering the development of an information society for all in support of the i2010 goals. It will help develop lead markets for innovative ICT-based solutions notable in areas of public interest. This will help open a wide range of new business opportunities in particular for innovative SMEs providing ICT based solutions.* This leads in turn to three main thematic areas of interest

- eGovernment
- eHealth
- eInclusion

At this thematic level there will be corresponding challenges and key issues of interest: these may, but not necessarily in every case will, include the following elements identified in the legal base of the ICT-PSP:-

- Developing the significance for evaluation and monitoring of SME participation and relevance in the ICT-PSP, e.g. in such contexts as eGovernment services for citizens; (Paragraph 5, Article 30)
- Relationship with RTD including evaluating the linkage (including ‘pull-through’) from RTD programmes to CIP (Paragraphs 9 and 10)
- Exploiting suitable methods for evaluating market distortion (Paragraph 16); and

- Assessing relationships of complementarity and (fiscal and behavioural) additionality to secular market developments and other public near-market support (e.g. Structural Funds). (Paragraph 11, Article 8)
- The gender dimension and the principle of non-discrimination (Paragraphs 13 and 18, Article 8)
- Monitoring and evaluation should enable readjustment (Paragraph 18)
- The role of public procurement in helping create lead markets (Paragraph 23)

1.5 Synergies with other Programmes

As shown above, the objectives of i2010, of the CIP as a whole and of the ICT-PSP within it have many elements in common. They enjoy wide support throughout Europe, and in particular they are widely supported by Member States and by European Regions, which operate a number of relevant programmes. (Some of these are supported by structural/convergence funds). These programmes also form a significant element in the context of ICT-PSP: synergies with such national or regional programmes are accordingly an issue for monitoring and evaluation. The evaluation and monitoring of the ICT-PSP will feed into the review of i2010 in 2008 and into the evaluation and monitoring of the CIP as a whole. It will also link with ICT-RTD in the sense that it must address synergies with, and pull-through from, ICT-RTD and its predecessor IST-RTD and previous RTD Framework Programmes.

2 The Conceptual Model for Evaluation and Monitoring

The evaluation and Monitoring Strategy proposed is based on the well established logical framework methodology. A consistent logical framework is utilised at the level of individual activities (projects); portfolios of activities (sub-themes within thematic action lines); and the programme as a whole.

These different levels of evaluation and monitoring have different emphases within that framework but essentially address the same issues. Similarly the particular needs of interim evaluation, final evaluation and monitoring all have different areas of emphasis within the logical framework but in each case essentially address the same issues.

The output of this methodological approach is a mapping of evaluation criteria; indicators and data appropriate to those criteria; and applicable assumptions and risk factors, which are then used in the following section to develop the specifics of the Evaluation and Monitoring Strategy.

2.1 Fundamental Underpinning – evaluation and monitoring

Evaluation and monitoring are conceptually distinct but practically related. As used in this document, evaluation refers to the assessment, according to fixed and well-understood criteria, of how the programme has done in terms of its stated objectives. This is often separated into assessment according to three criteria.

- Efficiency – good communication of objectives and progress, minimisation of financial and other costs, avoiding gaps, duplication and inconsistencies that waste resources and active detection and response to problems arising in implementation.
- Effectiveness – the extent to which objectives have been met, especially in relation to quantified and verifiable indicators or where progress can be

benchmarked against suitable comparators. The quality of this type of evaluation rests in the adequacy of performance indicators and their relevance to outcomes.

- Efficacy – the relevance and contribution of the programme to the broader objectives that form its context

The legal base for the programme⁵ prescribes distinct evaluations at the interim and final stages. Evaluation is not limited to measurements of efficiency, effectiveness and efficacy (or related fine-grained criteria) but also includes attribution and explanation. Attribution (that is, of eventual outcome to the actions taken) asks a series of questions:

- Were the expected outcomes observed?
- How far did they result from programme activities?
- Would they have been achieved without the programme?
- To what other (unexpected) outcomes did the programme contribute?

It is recommended that the evaluation and monitoring strategy should aim to illuminate how and why the programme achieved the observed effects, including unexpected or indirect channels and synergies with other activities, and thus contribute to a more general understanding of the systems addressed by ICT-PSP itself, the CIP as a whole and the i2010 framework more broadly.

It is further recommended that monitoring be aimed at tracking information about the temporal progress of a programme (especially activities and near-term effects) and informing management (rather than design) decisions. It should consider whether activities are proceeding according to schedule and meeting interim implementation targets (milestones and deliverables). It should also track the provision, quality and utilisation of resources. It should thus concentrate on inputs, activities and near-term outputs rather than outcomes or longer range impacts.

There are two important linkages between evaluation and monitoring. Evaluators need initially to familiarise themselves with the operation of the programme and to consider the efficiency, effectiveness and efficacy contribution of programme management to concrete outputs, outcomes and impacts. The monitoring base thus provides: a ready source of necessary – if routine – information; a set of individuals familiar with the

⁵ The stipulations of the legal base are discussed in detail in Section 3.1 below and appropriate sections of the Council Decision are reproduced in Annexe 1.

workings of the programme at a detailed level; and an important element of the programme's internal governance and outreach activities. In addition, the selection and design of monitoring should be informed by the eventual needs of evaluation. It is therefore recommended that the information collected and resulting decisions should be archived in a form suitable for evaluation so provide evaluators with a sound and consistent evidence base. The necessary activity of monitoring may provide an ideal opportunity to capture routine and additional information needed for evaluation in a cost-effective and timely manner. It is not possible to have good evaluation if the correct data is not collected from the outset and contemporaneously. Set against this is the need to keep monitoring burdens in proportion – monitoring is a continuing and routine administrative function, and as such has limited spare capacity in resources and time.

2.2 Methodological basis of the E&M Strategy

It is recommended that the E&M strategy should utilise a generalised form of logical framework (logframe) and be in conformity with the EC Guidelines for Evaluation⁶. The monitoring and evaluation strategy developed here develops a hierarchical and longitudinal consistency between the framework and the supporting data structures, analytic tools and evaluation activities.

The Logframe used incorporates the complexities of the actual programme dynamics of the ICT-PSP, including different levels, performance measures, external risk factors or assumptions, etc, without being dependant on them.

⁶ European Commission (2004) Evaluating EU Activities – A practical guide for the Commission Services. Office for Official Publications of the EC, Luxembourg.

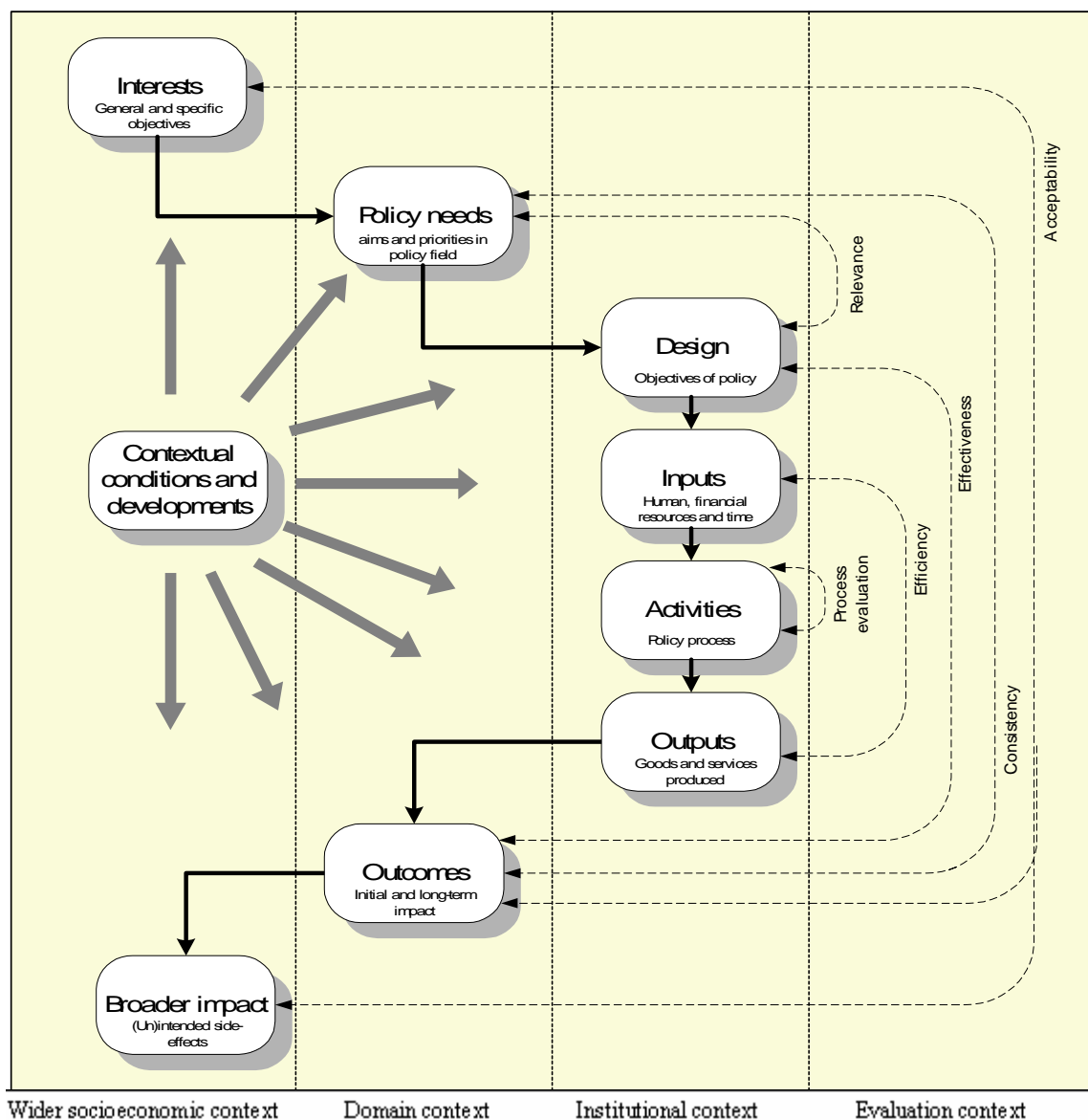


Figure 2.1: Recommended Intervention logic of the ICT-PSP (developed from *inter alia* EC Guidelines for Evaluation).

It is recommended that evaluation be undertaken at each of the following levels.

- The individual **proposal/project** level.
- The **portfolio** of projects sharing a common central theme (i.e. an action line or sub-theme within the main themes of the Work Programme), to be considered from the ('horizontal') standpoints of:
 - Objectives tackled (coverage and risk diversification); (defined at the sub-theme level);
 - Knowledge created (learning and knowledge transfer);

- Networking and partnership (the structure, productivity and sustainability of links among participants and between participants and others e.g. commercial entities, public-sector information owners, financiers, etc.); and
- The involved groups (target and delivery), with their powers of action, preferences and 'skill' level; and the way the various groups relate in taking decisions and actions (incidence of decision-making, actions, costs, benefits).
- The **ICT-PSP programme** level, considering the impact on integration, structure, conduct and performance⁷ of European implementation of ICT. Also at the programme level, referring to the ICT-PSP itself (in the context of developments in the affected sector, other policy initiatives, member state activities, etc.), the rationale for the overall structure and the 'process map' of programme decision-making (including responsibilities, follow-up and evaluation of the themes).

The Logical Framework ties together project, portfolio, and programme levels although the focus of interest will be different at different levels. The Logical Framework recommended for the ICT-PSP is presented below in a series of rows that trace the “intervention logic” from initial design to sustainable long-term impacts and evaluation. The columns identify each of the discrete steps in the intervention; associated criteria for success; measurable indicators (and data sources), and external (risk) factors affecting performance. The Framework should inform the collection, integration and analysis of evidence, the assessment of performance and the development of insights and recommendations.

It is recommended that different elements of evaluation and monitoring should operate thus:-

- The continuing monitoring activity should be concentrated on inputs, activities and (immediate) outputs.
- The interim evaluation, conducted when early outcomes are beginning to be observed, should touch on the totality of the domain and institutional contexts, with the proviso that longer-term outcomes and the totality of the portfolio of activities cannot be observed. It should consider design in order to make any necessary ‘mid course’ corrections.
- The final evaluation should address the entire logical framework. However, because redesign is no longer an option at this stage and because the identities and nature of interest groups and contextual factors are likely to have changed,

⁷ Including for instance, the health of competition, the adequacy of returns to investment and entrepreneurial risk-taking, the delivery of societal gains and the incentives for continued development.

These classifications correspond (broadly) to vertical and horizontal results and to vertical and horizontal outcomes respectively.

the emphasis in terms of programme development should be primarily on exportable lessons for future and parallel activities.

Table 2.1: Overall logical framework

Stage	Evaluation (criteria)	Measurable indicators		Risk factors
		Indicator(s)	Data	
Design	Relevance	Process map Objectives ⁸ Thread structure	Programme, external documents Consultation	Legislative process External programmes
Inputs	Adequacy Availability	Quality Quantity Allocation	Budget, Financial regulation, Work Programmes, Staffing plans	Funding delays Personnel interruptions availability of co-funding
Activities ⁹	Management quality Engagement, Communication	Process evaluation: accessibility, responsiveness, timeliness, communications, enforcement, monitoring (administrative procedures, reporting requirements)	Programme documents, Work programme Changes, Grant management, Survey, Interviews	Procedural delay Engagement by externals, co-ordination across programme elements, with other EC activities, with MS activities
Outputs	Efficiency	Cost-benefit ratios Cost-effectiveness Balance of costs (fixed/variable, overhead) Co-financing (mechanisms) Output delivery (cost, quality, timeliness) of Content, software, products, reports, multilingual localisations, etc.	Mostly rolled up from thematic level	Hand-off to other activities, success of business model, gaps, duplication or conflict with 'secular' content developments.
Outcomes	Effectiveness	Viability, sustainability of ventures and/or products, content uptake and use, availability and exploitation of public sector data.	External documents Consultation	Interaction with related programmes and policies, uptake by citizens, competitiveness

⁸ Objectives are part of the design of the programme, and are thus inputs rather than criteria.

⁹ At this level, activities concern Programme (re) design, WP/Call drafting, engagement strategy, concertation etc.

Stage	Evaluation (criteria)	Measurable indicators		Risk factors
		Indicator(s)	Data	
Broader impact	Impact, Additionality, Sustainability, Consistency	Improvements in use of public sector information, availability of high-quality, competitive content, dynamic sector. Patterns of use, co-funding, marginal impact of support, networking, licensing Coherence of integrated strategies Member State cooperation (joint policies) and coordination (harmonised policies)	Statistics External documents Interviews	Awareness Parochialism MS political developments, Engagement, vision of funding sources, competitive pressure from large and/or non-EU content providers, developments in infrastructure, applications, services layer

It is worth noting that risk factors in a logical framework can be understood in terms of the programme or project’s risk assessment and management strategy – the assumptions about necessary or sufficient conditions for the success of the relevant activity. These can be evaluated in terms of: the likelihood and consequences if the assumed conditions do not obtain; ‘fallback’ or contingency arrangements; the quality and availability of information used to assess probabilities and monitor external conditions and events; and the extent to which the success or failure of necessary conditions is under the direct control of stakeholders involved¹⁰. The strategy emphasises:

- Structural aspects of risk management – whether policy identifies and properly assesses a limited set of distinguishable, important and plausible possibilities
- Whether necessary information, monitoring and contingency arrangements are in place for critical (relatively high likelihood and importance) risks; and
- Whether contingency arrangements are clear and likely to be effective.

The consideration of risk factors, in addition to forming a key part of evaluation, also helps in the difficult task of attribution. Especially for the interim (largely formative) evaluation, it is recommended to gather evidence showing the extent to which risk factors affected observed performance and whether risk taking was well thought-out, even in the event of adverse outcomes. The innovative, public, trans-European and

¹⁰ Some risks arise from internal failures (incompatible objectives, co-ordination problems, mistakes), others arise from the strategic decisions of key outside stakeholders, while still others are the result of non-intentional behaviour – important conditions that cannot be verified when policy choices are made and implemented, markets and other developments that cannot be predicted, emergence and impact of wholly-new or disruptive technologies, etc.). In principle, the likelihood and consequences of *risks* can be quantified and evaluated, but *uncertain* outcomes can sometimes not even be identified.

near-market aspect of CIP projects – and especially the high degree of cooperation with other DGs and Member State institutions - all expose them to risk, and the portfolio (sub-theme) aspect should ensure that overall programme objectives are achieved even when individual projects under-perform.

2.3 Specific Methods

The strategy rests on the appropriate (and appropriately-timed) collection and analysis of evidence from the very earliest date and in consistent formats. There is a wealth of literature relating to these subjects in general. In this section, we consider the specific mapping of methods to evaluation types in the context of ICT-PSP evaluation and monitoring. These considerations are included because methodological decisions are of vital importance but methods must reflect specific evaluation issues and the availability and character of evidence.

2.3.1 Evidence gathering

Evaluation and monitoring involve both quantitative and qualitative evidence. Much of this is secondary evidence drawn from existing sources. In some cases, primary data collection is required. It is recommended that there should be parsimonious data collection¹¹ – stressing secondary evidence and re-use of data collected for monitoring and interim evaluation for subsequent evaluations to economise on effort and promote consistency.

Quantitative data sources are treated in subsequent Chapters. The following Table summarises the purpose, strengths and weaknesses of the recommended methods for collecting subjective and qualitative data. It is recommended that each of these methods be implemented at the level indicated.

Table 2.2: Evidence collection methods

Method	Overall Purpose	Advantages	Challenges	Level
Questionnaires,	Quick and easy collection of	Anonymity, cost, easy to	Participation, framing bias;	All

¹¹ The intervention logic and logframe should guide data collection, but some 'channels of impact' cannot be foreseen in advance – e.g. diffusion to other contexts or the impact of a deployment programme as a concrete expression of IST policy priorities. The general evaluation practice of reducing data collection burdens by stating hypotheses in advance may need to be cumulative, as monitoring and successive evaluations produce refined understanding of the types of impact, the mechanisms by which they are produced and the availability of suitable data. A second aspect of parsimony concerns data 'quality' – the rationale for collecting multiple confirmatory evidence can only be validated as collection and analysis proceed. Part of this is 'measurement bias' - the existence (or otherwise) of selection and response bias in observed data; another (particularly for exemplary interventions like CIP) is evidence of diffusion or adaptation elsewhere. A scan for examples of diffusion and adaptation elsewhere risks overstating benefits, but a 'negative' scan for failure to diffuse equally risks understating benefits

Method	Overall Purpose	Advantages	Challenges	Level
<i>Surveys, Checklists</i>	limited information from many people in a non threatening way	compare and analyse, large and repeatable samples, supports statistical analysis, good exemplars	casual answers; impersonal; expertise in sample and instrument design; hard to 'probe further.'	
<i>Interviews</i>	More complete evidence and judgement of key subjects' impressions or experiences, further exploration of survey responses	Full range and depth of information, relationship with subject, flexibility (no 'blank' answers)	Time, cost; difficulties of summary and analysis; selection bias due to time commitment, perceived risk of participation; response bias from interviewer-subject interaction.	All
<i>Internal document review</i>	Impression of programme operation without interrupting work, more objective evidence of operation and governance.	Comprehensive, authoritative historical information (absence shows weak management information); minimal disruption; information exists; little bias	Time and/or incompleteness; needs clear list of things to look for; may require insider knowledge; limited flexibility as to form and access	All
<i>External document review</i>	Corroborative evidence of outreach, awareness; secondary outcome and impact evidence (audit, peer-reviewed micro- and macroeconomic analyses)	Objectivity, scientific rigour, clarity, face validity.	Can be difficult to interpret or adapt, may require specialist knowledge, often delayed or hard to identify.	Portfolio programme
<i>Focus groups</i>	Explore topic in depth through group discussion, identify common understanding, complaints.	Quick, reliable, common impressions, efficient way to collect wide and deep information, can convey priorities and weighting.	May require skilled facilitators for reliability and closure, can be hard to analyse, difficult to schedule.	Portfolio, programme
<i>Case studies</i>	Full understanding of specific intervention or rounded picture combining programme and contextual factors, comprehensive examination through comparison of cases	Fully depicts 'life-cycle' experience, powerful way to engage outside audience, sheds light on role of risk factors, assumptions and spillovers	Usually quite time consuming to collect, organise and describe; depth of information, rather than breadth, may be viewed as unrepresentative.	Project, portfolio
<i>Network analysis</i>	To expose the structure of relationships through which effects and impacts are achieved and results disseminated.	Easily implementable via existing software; supports analysis of complementary project, programme and exploitation networks - links among participants, among thematic areas and among support modalities.	Information on nodes and links (key individuals, entities, projects or products) and link strength, direction, duration; choice of descriptive parameters (e.g. path length, clustering coefficient); analysis for evaluation and attribution.	Programme
<i>Macro-economic analysis</i>	To identify contributions to overarching (e.g. i2010) goals and to properly assess economic climate surrounding ICT-PSP	Uses commonly available, commonly understood and consistent data applicable across ICT-PSP, CIP and i2010 activities; availability of well-understood methods and external comparators; relevance	Distinguishing ICT-PSP impacts from macro developments, impacts of other activities, exogenous shocks; modest size of programme relative to macroeconomic aggregates; variable lags in impact.	Programme
<i>Sectoral impact studies</i>	To identify contributions to dynamism and development in specifically targeted sector, secondary impacts on induced innovation, investment and competitiveness, influence of/on market structure conduct and performance.	Finer focus than macro studies; informative and convincing demonstration of impact; directly exposes impact mechanisms; directly addresses market failure; facilitates coordination with and crosscutting evaluation of other CIP, i2010 activities.	Availability of data with sufficient coverage and quality; influence of external risk factors; difficulty of defining sectoral boundaries and market power.	Portfolio

A specific recommendation applies to case studies. Case studies in the ICT-PSP context can be defined around the impact of the programme on a particular (type of) organisation, a particular market sector, a particular project, action line or mode of intervention. It is customary to conduct case studies in a set, forming a balanced basis

for comparison and identification of specific and general factors affecting performance. While surveys and aggregate (especially market) data provide a sound basis for establishing broad patterns and distributions of impacts (e.g. across different types of enterprise) and statistical or econometric analysis of the dynamics and linkages from programme interventions to quantifiable outcomes, they generally shed little light on the mechanisms through which these effects are produced. Case studies can shed light on processes and help distinguish selection from incentive effects. They can also – and this is crucial for evaluating CIP activities – correct the sampling bias and inferences that might be drawn from a casual interpretation of ‘success’ or ‘failure.’ Evaluations of other innovation and near-market interventions have consistently shown that beneficial effects often arise in unexpected ways. A case study may be the best way to identify such impacts, which might not otherwise be measured or assessed. Two other key elements of case studies are the need for active engagement with the subjects and the importance of sampling. The strategic implications are that cases may need to be identified in advance of the evaluation and that the same considerations of nested sampling used to target surveys¹².

2.3.2 Analysis

Once collected, evidence must be analysed. We do not detail qualitative and quantitative analytic methods, but map them against monitoring, interim evaluation and final evaluation.

Table 2.3: Monitoring methods¹³

Method	Purpose	Advantages	Challenges
Performance metrics	Provide snapshot and statistical description of operational performance	Clear and easy to prepare; objective basis for tracking and comparison	Data quality; scope and completeness
Interviews	Oral collection of answers to clearly defined, limited and systematic questions	Specific examples of outcomes; interview format allows flexibility	Time; interviewer skill
Survey	Web- or paper-based forms	Suitable for statistical analysis and tracking	Picking up emergent or complex issues; needs regular, complete completion
Group discussions	Mini-focus group among different stakeholders on limited set of issues	As with focus group – evaluation coincident with evidence	Moderator must be skilled, and ‘management bias’ may

¹² Trochim (2005)

¹³ DG Enterprise (2005)

Method	Purpose	Advantages	Challenges
		collection.	cloud results

Two other specific recommendations derive from the specifics of the strategy – the need to evaluate cross-cutting activities (at CIP, Member State and i2010 levels) and the related need to ‘roll up’ project-level evidence and evaluations to portfolio and programme levels.

With regard to the evaluation of cross-cutting activities, the methods developed by the UK National Audit Office Value for Money directorate are particularly relevant. In assessing competitiveness and innovation impacts of Department of Trade and Industry schemes, they used the following procedure¹⁴:

“Grounded in decision theory, the basis of this approach was to identify 14 indicators representing effects on innovation and competitiveness and five representing costs. These were a mixture of process indicators (for example, average application processing time) and output indicators (for example, number of licences acquired). Values on each indicator were transformed onto ‘preference scales’ which scored each scheme on a scale of 100–0 on a relative basis, that is the best performing scheme on that indicator was assigned a score of 100 and the least performing zero, with the remainder interpolated. The process was repeated for the indicators themselves, to yield finally weighted preference scores based on equal weights for costs and objectives. ... Clearly, the outcomes are sensitive to the indicators selected and the weightings assigned to them.”

We therefore recommend that the existing programme level indicators (in Section 3.2. below) should be supplemented by the creation of suitable sets of indicators at project level and at portfolio (sub-theme) level. Where the available data permit, these indicators should be independent of each other (to avoid double counting). The use of a single aggregate – and a particularly high or low score on a single indicator - should not obscure important tradeoffs. Thus the single score should be complemented by an examination of the components. Where appropriate, the evaluators should construct a balanced scorecard¹⁵ or to identify initiatives that are dominant, dominated or undominated (i.e. that do better than all others, worse than some other or not worse than any other across the whole set of indicators). For simplicity, we suggest that project-level information be used to ‘score’ the portfolio (sub-theme) on four criteria:

- Coverage – did the set of activities cover the area defined by the work

¹⁴ NAO (1995), as described in Georghiou (1998)

¹⁵ The balanced score methodology looks at programmes from a fixed set of perspectives, for which intermediate and long term, input, output, impacts and outcome measures are defined. The score card is intended to focus on relatively few, but key, testable and measurable objectives. Data is gathered regularly, and added to a structured database that facilitates comparisons. See Kaplan and Norton (1996).

programme?

- Depth – did the set of activities provide an appropriate degree of overlap with other activities within the programme and externally? – It should be noted that duplication may indicate waste or provide diversity of approach and resilience. At the level at which (especially interim) data are collected, it may not be possible to ‘score’ the results, but depth and coverage should be described in simple terms.
- Continuity – was there an appropriate pace of portfolio activity over time, or was activity one-off, recurrent or sporadic?
- Engagement – what is the distribution (numbers, types) of the population reached by the Portfolio/programme (proposals and projects) within relevant reference population?

Because large pilots necessarily involve parallel and linked activities and sources of support, the considerations of coverage, depth, continuity and engagement apply at project level.

2.4 Differing Emphases of Evaluation and Monitoring

Different emphases are appropriate at different stages of evaluation and monitoring. Interim evaluation takes place at a time when only limited results and outputs are available from activities and when long-term outcomes can only be anticipated¹⁶, not seen. It is therefore recommended that interim evaluation should emphasise the early stages of the intervention logic (especially the efficiency and effectiveness of mechanisms in use). Conversely, early stage ‘design’ questions in the interim evaluation will only need refreshing at final evaluation stage, so it is recommended that final evaluation should emphasise later stage elements of activities and outputs and (to the limited extent then possible) outcomes and broader impacts. Chronologically the first substantive monitoring activity will be data gathering (from the outset) followed by the monitoring of the evaluation of proposals submitted for funding under the first Call; review of projects in-progress is also a necessary monitoring function. Evidence needed for effective evaluation (e.g. case studies of the development of impacts such as the lowering of administrative burdens) will be most efficiently acquired and collated as part of monitoring, which thus covers almost all of the topic areas of the logical

¹⁶ i.e. inferred from ‘soft’ evidence as indicated in Table 2.2.

framework. Although indicators are central to the evaluation and monitoring strategy (a full list of appropriate indicators used in the Impact Assessment of the programme is reproduced in Annexe IV to this report) there other ways of utilising evidence (especially case studies) shed light on areas likely to be missed by crosscutting indicators so the acquisition of such evidence must be enabled appropriately.

Consideration of the need for evidence gathering introduces two further requirements for the E & M strategy. Firstly, evidence must be available in a timely fashion. For example, if the final evaluation needs to illustrate movement towards long-term impacts by the use of case studies, which necessarily take time to prepare and may require use of contractors, such studies may need to be engaged perhaps nine months ahead of the final evaluation. Secondly, it is necessary to consider who might most appropriately be responsible for the gathering of evidence. Projects will process much data, but the purpose of a project is to achieve its functional objectives, not to produce paper. Programme management will also possess much relevant data about activities, but not necessarily about the wider constituents affected by and affecting these activities. Thus, some evidence should be collected by the Evaluation and Monitoring Unit itself. Questions of timing (when) and locus of evidence gathering (who) are dealt with in section 4 following.

3 Development of the E & M Strategy

The outline developed here is derived first from the legal basis of the ICT-PSP, which specifies the undertaking of interim and final evaluations and their dates, and implicitly or explicitly calls for inclusion of certain specific issues. Additional requirements arise from the context of the programme (e.g. its relationship to other programmes); and others from the desirability of compliance with EC evaluation and monitoring guidelines and best practice standards. .

3.1 Requirements for Evaluation and Monitoring

It is clearly essential that evaluation and monitoring should be in compliance with the legal base for the ICT-PSP; it is recommended that it should be in accordance with best practice standards and particularly with the E.C. Guidelines for Evaluation.¹⁷

Article 8 of the Decision¹⁸ covers evaluation and monitoring and forms the legal basis for the E & M Strategy. (Article 8 is reproduced in Annexe I): The particular requirements state that:

‘The Framework Programme and its specific programmes shall be subject to interim and final evaluations which shall examine issues such as relevance, coherence and synergies, effectiveness, efficiency, sustainability and utility.

The interim evaluations may also include ex-post evaluation elements with regard to previous programmes’

in addition to the requirements for interim and final evaluations there are specific references in the Council Decision to (inter alia):-

- Synergies within the CIP (Article 8, Para 1)
- Synergies with other Community Programmes (particularly including the research Framework Programmes) (Paras 9 & 10)
- Synergies with other activities in the i2010 initiative (Para 37)
- The gender dimension and non-discrimination (Paras 13 & 18, and Article 8, Para 1)

¹⁷ European Commission (2004) Evaluating EU Activities – A practical guide for the Commission Services. Office for Official Publications of the EC, Luxembourg.

¹⁸ Op cit

- The inclusion in annual work programmes of measurable objectives; evaluation criteria, and a set of quantitative and qualitative indicators of effectiveness in delivering outcomes. (Article 36)

These stipulations in Article 8 about the purpose and content of the evaluations are compatible with the model for evaluation which appears in ‘Evaluating EU Activities – A practical guide for the Commission Services’¹⁹. The relevant section of this which expands the concept of interim and final evaluation is reproduced in Annexe II.

3.2 Objectives and Indicators

The particular objectives of the ICT-PSP are established in Articles 26, 27, 28 and 29 of the Legal Basis reproduced in Annexe III.

Assessing movement towards these objectives requires observable progress *indicators*. The ICT-PSP Impact Assessment defined indicators corresponding to each objective of the ICT-PSP as shown in the Tables below.

The indicators relevant to the ICT Policy Support Programme build on existing Eurostat Information Society Policy and Structural indicators and the eEurope indicators. When these indicators are not sufficient to measure the attainment of objectives or effectiveness of policy measures, supplementary “soft” indicators are to be derived from Eurobarometer surveys. These indicators are also subject to review and updating.

It is recommended that the set of indicators used in the Impact Assessment of the ICT-PSP should be used for evaluation at programme level and that additional indicators be defined for evaluation at project and portfolio (sub-theme) levels.

¹⁹ European Commission (2004) Evaluating EU Activities – A practical guide for the Commission Services. Office for Official Publications of the EC, Luxembourg.

Table 3.1: Indicators from defined in the ICT-PSP ex ante assessment, 1 - development of single European information space

Objectives	Indicators	Verification source
a) ensuring seamless access to ICT-based services and establishing appropriate framework conditions for rapid and appropriate take up of converging digital communications and services including interoperability, security and trust aspects;	Quality and effectiveness of content accessibility by different devices	Eurostat Information Society Structural Indicators; Eurobarometer survey – Annual reporting and monitoring programme evaluation
	Speed of interconnections and services available between and within national research and education networks (NRENs) within EU and worldwide	eEurope Indicator ²⁰ 4 – Annual reporting and monitoring programme evaluation
	Percentage of EU websites in the national top 50 visited	eEurope Indicator 22 – Annual reporting and monitoring programme evaluation
b) improving the conditions for the development of digital content with a special emphasis on multilingualism and cultural diversity;	Perceived quality of public service multilingual websites	Eurobarometer survey – Annual reporting and monitoring programme evaluation
	Citizens access to and use of the internet	Eurostat
c) monitoring the European Information Society, through data collection and analysis of the development, availability and use of digital communication services including the growth of internet access to broadband as well as developments of content and services	Enterprises access to and use of ICTs	Eurostat
	Information Society Policy indicators	Eurostat
	Perceived security. Quality of filtering technologies. Number of network security concerns. Number of criminal cases on the internet. Internet users' experience and usage regarding ICT-security	ENISA monitoring; Eurobarometer survey – Annual reporting and monitoring programme evaluation

²⁰ Liste des indicateurs d'étalonnage pour le plan d'action eEurope – 13493/00 – ECO 338 – n° doc préc 10486/00 ECO 216 CAB 7 SOC 266 EDIC 117. The eEurope indicators are subject to a process of periodical revision and update in the course of eEurope Action Plan and follow-up initiatives.

Table 3.2: Indicators defined in the ICT-PSP ex ante assessment, 2 - wider adoption of and investment in ICTs

Objectives	Indicators	Verification source
a) promoting innovation in processes, services and products enabled by ICTs, notably in particular in SMEs and public services, taking into account the necessary skills requirements;	Eurostat / OECD indicators on ICT investment	Eurostat Information Society Structural Indicators – OECD statistical reporting and monitoring programme evaluation.
b) facilitating public and private interaction as well as partnerships for accelerating innovation and investment in ICTs	Amount of government information (by pages or by megabytes) which is digitised and available on-line	eEurope Indicator 22 (III-IV) – Annual reporting and monitoring programme evaluation
	Employment in the on-line content sector	eSkills reports; Eurostat eLearning indicators – Annual reporting and monitoring programme evaluation
c) promoting and raising awareness of the opportunities and benefits that ICTs bring to citizens and businesses and stimulating debate at the European level on emerging ICT trends;	Percentage of companies that buy and sell over the Internet Definition	eEurope Indicator 16 – Annual reporting and monitoring programme evaluation
	Public use of government on-line services – for information / for submission of forms	eEurope Indicator 18 – Annual reporting and monitoring programme evaluation
	Percentage of public procurement which can be carried out on-line	eEurope Indicator 19 – Annual reporting and monitoring programme evaluation

Table 3.3: Indicators defined in the ICT-PSP ex ante assessment, 3 - an inclusive Information Society, more efficient services in areas of public interest and improved quality of life

Objectives	Indicators	Verification source
<i>An inclusive Information Society, more efficient services in areas of public interest and improved quality of life</i>		
a) widening ICT accessibility and digital literacy	Information Society Policy Indicators	Eurostat Information Society Structural Indicators – OECD statistical reporting and monitoring programme evaluation.
	Quality and efficiency of on-line services. Impact on quality of life	Eurostat – Annual reporting and monitoring programme evaluation
b) reinforcing trust and confidence as well as support for ICT use, addressing, in particular privacy concerns	Information Society Policy Indicators	Eurobarometer survey – Annual reporting and monitoring programme evaluation
c) improving the quality, efficiency and availability of electronic services in areas of public interest and for ICT enabled participation, including Interoperable pan-European or cross border public services as well as the development of common interest building blocks and sharing good practices.	Percentage of teachers using the internet for non-computing teaching on a regular basis	eEurope Indicator 10 – Annual reporting and monitoring programme evaluation
	Percentage of workforce with (at least) basic IT training	eEurope Indicator 11 – Annual reporting and monitoring programme evaluation
	Number of places and graduates with ICT related third level education	eEurope Indicator 12 – Annual reporting and monitoring programme evaluation
	Percentage of workforce using telework	eEurope Indicator 13 – Annual reporting and monitoring programme evaluation

Successful conduct of interim and final evaluations will depend critically on timely availability of appropriate data in forms suited to generation of useful and relevant indicators and (where possible) conformable with data and indicators used in other CIP programmes.

This has two particular implications for the E & M strategy. First, it is recommended that activities (including – but not limited to - projects) should be encouraged²¹ to include in their reports data and/or indicators specifically chosen to be applicable at project and portfolio (sub-theme) levels. Second, it may not always be appropriate or desirable for activities (esp. projects) to produce necessary reporting data from their own activities (their primary purpose being generally to succeed in their chosen specific activity, rather than playing the role of participants in a programme) so that some element of central monitoring and possibly support for data and indicator production will be required²². These elements are identified in Section 4.

To this list are to be added indicators nominated by the projects themselves. However, things in the real world change, and the indicator requirement must allow scope for 'equivalent performance' – in other words, projects should justify themselves in terms of concrete (and indicated) overarching objectives, but retain a certain freedom to suggest valid ways of measuring their contributions to those goals. The data collected by different projects would not necessarily be directly comparable or 'aggregable.' This may be an advantage, since numbers that appear to be comparable often are not.

3.3 Monitoring and Market Failure

It is important in any discussion of market failure and public sector funding to appreciate that market failure does not necessarily imply total failure of a market to

²¹ The point is not to mandate a list *a priori*, but to strengthen the coherence of evaluation across levels and throughout the Programme's life-cycle by starting from a list of relevant criteria (in the spirit of Table 3.1-Table 3.3) and to invite projects to select from and add to this list when meeting existing reporting requirements. In this way the set of indicators can change with experience and in response to external developments while maintaining a degree of longitudinal consistency. Projects choosing from the list could economise on methodological effort by building on the work of those who've used those indicators before – again, this strengthens comparability, since even the 'same' indicator measured in different ways can be hard to compare. This legacy could range from the purely methodological (project-specific data) to shared sources of evidence (indicators of outcomes and broader impacts) that cut across individual projects. These refined indicators constitute an additional output at portfolio and programme level.

²² The advantages of self-reporting are efficiency of access to relevant data, understanding of strengths, weakness and context and synergies with the activity's internal management, monitoring and evaluation needs. Potential drawbacks include the burden of collecting and reporting data of indirect relevance, the possibilities of bias and selective focus, distance (in time, location etc.) from the phenomenon measured and possible inconsistencies among data emerging from different activities. Many of these can be addressed by using 'entity-level' and aggregate data to validate each other.

function, nor that failure should be permanent or long term. Markets may fail to operate at optimum efficiency and the extent of market failure may fluctuate over quite short periods of time. Some element of market failure is a prerequisite to action in the ICT-PSP. It is clear that market failure is accepted to have been widespread and sufficiently severe in nature as to necessitate implementation of the CIP and of the ICT-PSP. The alleviation of market failure is not a stated programme objective and is thus not to be evaluated in the context of the movement towards attainment of objectives.

The legal basis sets two criteria that appear to require some monitoring beyond management information in the strict sense; existing market failure as a ground for intervention and non-distortion of market function as an evaluation criterion. These are, of course, partially contradictory – any action in response to market failure necessarily ‘distorts’ market function – albeit hopefully in a positive direction. Moreover, interpreted strictly, they call for a level and type of analysis that does not naturally fit within the overall domain of the ICT-PSP. But there is a distinct virtue to identifying the *type* of market failure (e.g. informational, barriers to entry, coordination failure, aversion to specific risks, etc.). This does not require complex market boundary or efficiency analysis, but helps to:

- identify areas where specific interventions available within ICT-PSP are likely to have greatest impact;
- indicate market data relevant for monitoring impacts (e.g. market structure, availability of finance, etc. – not all such indicators are relevant to all types of market failure); and
- tackle specific evaluation criteria including:
 - Acceptance - concordance between stakeholder interests and broader impacts
 - Relevance – match between policy needs (e.g. the reason why the market has failed to realise the competitiveness and innovation opportunity) and programme design
 - Consistency – between the specific objectives of the programme and the monitored outcomes (are the fruits of programme activities being taken up by the market; are similar initiatives finding a more welcoming climate, are trans-European benefits being realised, etc.?)

Previous initiatives (e.g. Structural Funds, Framework RTD Programmes) have given rise to a substantial body of guidance on these topics.

Market failure review is primarily useful for work programme design and it is therefore recommended that market function studies be undertaken in a timely manner to inform all work programme revisions. It is further recommended that interim evaluation should

consider the state of the market at each implemented portfolio (sub-theme) level, in order to inform any proposed Work Programme revision; and that the final evaluation should review the state of the market at programme level, in order to inform deliberations on any follow-up programme.

4 E & M Activities in the ICT-PSP

In this section we consider the three explicit areas of E&M activity (monitoring, interim evaluation and final evaluation) identifying in each case what is to be done, how it is to be achieved and by whom and when it is to be undertaken.

Each activity is placed in position on a timeline that identifies additionally the key stages at which information is required to inform activities. Each is specified in terms of the evaluative questions to be considered, the evidence required for that consideration, the sources and appropriate modalities of gathering that evidence and the appropriate modalities of undertaking the evaluation and/or monitoring activity itself.

4.1 Monitoring

4.1.1 Scope and Utility of Monitoring

Monitoring of the ICT-PSP is an operational management necessity. Its strategic relevance to evaluation is threefold:

- Internal monitoring data on inputs, activities and the flow of immediate (contracted) outputs provides direct evidence of management efficiency and effectiveness, indirect evidence of management information and risk management systems and vital inputs to the assessment of overall cost-effectiveness;
- It provides a platform for the continuing capture of information that may be difficult to reconstruct in the essentially backward-looking context of the summative aspects of interim and final evaluations; and
- It supports the collection of longitudinal evidence relating to outcomes and impacts that is most efficiently collected on an ongoing basis²³.

²³ The reference here is to 'external' indicators of innovation, competitiveness and key market developments. While many of these data are already collected on an ongoing basis by e.g. national statistical offices, their importation may help management to build an independent awareness of key contextual developments and to supplement such periodic and aggregate data with more narrowly focused data (e.g. on specific markets or institutions) collected on a comparable basis. This is essential if the

As a result, monitoring contributes to interim and final evaluations by procuring evidence that is not realistically possible for evaluation teams to acquire otherwise. This will include monitoring evidence relating to such key management functions as proposal evaluation, contracting, review of projects in-progress and cross-project activities at the portfolio or programme level. It also supplements the formative and summative evidence available to inform strategic (as well as operational) programme management decisions. Monitoring activities will continue throughout the life of the programme; it is recommended that the monitoring system should be set up in time to be available for the evaluation of proposals arising from the first Call.

4.1.2 Monitoring of Implementation – Evaluation of Proposals Received

It is recommended that monitoring of proposal evaluation should comply with the ‘Practical Guide to contract procedures for EC external actions’ of 2006 or as subsequently amended. The report of the independent observers on the evaluation of proposals received under the final Call (2006/1) of eTEN noted of the evaluation system then used:

‘The observers consider that the evaluation system represents a significant value in itself. It has been well tailored to the particular needs of operation in near-to-market situations and as such would appear to have potential future uses in e.g. the ICT Policy Support Programme 2007-2013.’

It is recommended that this possibility be considered. Supporting ICT systems used in the evaluation of proposals should be compatible with those used in the evaluation of proposals in other CIP elements.

4.1.3 Monitoring of Implementation – Commissioning

Subsequent to contract award, a number of key steps are taken between the project consortium and programme management. These include the notification and challenge process, any negotiation with the consortium²⁴ and the timing and costs of finalising the contract. Because these issues have been highlighted in past evaluations, it is recommended that they be included in monitoring data collected by programme management.

4.1.4 Monitoring of Implementation – In-progress review of projects

It is recommended that all funded activities (projects) should be subject to review every

interim and final evaluations are to combine macro- and micro-level quantitative studies.

²⁴ This is, of course, subject to some procedural limitations.

year. Monitoring of the review process should be based on collation of evidence against the indicative lists of questions for interim evaluation (Annexe VI) and final evaluation (Annexe VII). This is particularly relevant in the case of large pilots, where the programme management view could usefully be supplemented by monitoring information relating to internal pilot management, co-funding, activities and performance metrics. Project level indicators should be collected in association with these reviews.

4.1.5 Monitoring of Implementation – Output and Impact Indicators

The ICT-PSP Impact Assessment adopted the indicators identified in Annexe IV, in order to take full account of policy issues and priorities and provide a better basis for judging progress towards aligning the objectives of the ICT-PSP and the CIP overall.

The ICT-PSP Work Programme additionally specifies anticipated impacts and corresponding indicators for each thematic activity (appropriate to specified objectives) in line with the objectives of the ICT-PSP. It is further recommended that the definition of appropriate indicators for monitoring and evaluation at the ‘project’ and ‘portfolio’ levels (to complement the indicators defined in Tables 3.1, 3.2 and 3.3 above for use at ‘programme’ level) should also be completed prior to this first evaluation of proposals (see timeline in Section 4.5. below). In this and other respects monitoring must be a consistent process using conformable data throughout its life, allowing (inter alia) a coherent set of comparisons with baseline conditions.

These indicators thus lie at the heart of all monitoring activities. It is recommended that monitoring reviews of these indicators should be prepared in a timely fashion to inform the interim and final evaluations. Data should be collected by:

- Projects;
- Programme management; and
- The Evaluation and Monitoring Unit.

To support interim evaluation the E & M unit should procure (for action in the period 1st January 2008 to 31st August 2008):

- A study of the state of the market within each funded sub-theme identifying types and tracking symptoms of market failure;
- A survey of perceptions among unsuccessful proposers in the first Call;
- A survey of SME involvement and benefits; and

- A case study exercise identifying and illustrating potential trajectories of development towards long-term socio-economic benefits.

It should also prepare reports for the interim evaluation covering:

- SME involvement;
- Pull-through from RTD overall patterns and identified instances; and
- Status of indicators (in Annexe IV) in the years 2007 and 2008

To support final evaluation, the E & M unit should procure (for action in the period 1st January 2010 to 31st August 2010):

- A study of the state of the market within each funded sub-theme identifying types and tracking symptoms of market failure (update to interim study);
- A study of the perceptions of unsuccessful proposers in the 2nd Call; and
- An indicator based study of macroeconomic and sectoral development.

It should also prepare updated reports for the final evaluation covering:

- SME involvement;
- Pull-through from RTD – patterns and identified instances; and
- Status of indicators (in Annexe IV, with any changes made at the interim stage on the basis of experience and with additional indicators for use at project and portfolio levels) in the years 2007 to 2010 inclusive.

4.2 Interim Evaluation

4.2.1 Objectives and Scope of Interim Evaluation

The interim evaluation should consider whether the effects of the ICT-PSP's interventions:

- Have been **relevant** to the needs and problems identified by the programme;
- Have been **efficient** in their operation and in their use of resources; and
- Have been **effective** in addressing the objectives of the programme, or show reasonable likelihood of being so at the time of evaluation.

Annexe VI provides indicative lists of evaluation questions under the headings of relevance, efficiency and effectiveness. Under these headings we also identify the

evidence required by the evaluation, sources of such evidence and appropriate indicators and the means by which the necessary evidence may be gathered.

4.2.2 Intended Utility of Interim Evaluation

The Interim Evaluation of the ICT-PSP will provide formative guidance to programme management concerning relevance; efficiency, and effectiveness and will inform subsequent Work Programmes revisions. It will feed into the Interim Evaluation of the CIP as a whole and it will assist in the assessment of progress of the i2010 initiative. It may also inform the Impact Assessment for any follow-up programme. Its particular focus (given its early date in execution of the programme) will be on the implementation mechanisms in use and on the response to the programme of its constituency; and on management processes.

4.2.3 Timetable for the Interim Evaluation

Relation to the Interim Evaluation of the CIP

The Interim Evaluation of the CIP as a whole must be completed by 31st December 2009. There is a tension arising from this requirement, between the need to have as much meaningful material as possible available to the interim evaluation of the ICT-PSP (i.e. ensuring that activities are well established before attempting to evaluate them) and the practicalities of combining elements into the overall CIP interim evaluation. It is therefore recommended that the full final report of the ICT-PSP interim evaluation should be available by 30th April 2009 and additionally that a good draft (i.e. with all sections substantially present) should be available by 31st March 2009. This timing will allow the CIP interim evaluation to benefit from the momentum and activities of the ICT-PSP interim evaluation.

Duration of the Evaluation

The same tension arises over the duration of the evaluation: at least six months would be desirable but this would limit the value of preparatory reporting due to the limited length of time for which projects had been under way prior to the evaluation. It is therefore recommended that the ICT-PSP interim evaluation should commence on 1st September 2008, present its conclusions by the end of March 2009 and, with one month for final editing of the report, complete work on 30th April 2009.

Prior Reporting (studies etc)

It is recommended that data collection activities should begin 1st January 2008. It is further recommended that all prior studies be undertaken in the period 1st January 2008

to 31st August 2008 in order that results should be available in a timely fashion for the evaluation team. They should not start prior to this, in order that they should sufficiently reflect the effects of activities.

4.2.4 Organisation of the Interim Evaluation

Given the extent of stakeholder surveys necessarily involved, and the limited window of opportunity for conduct of the evaluation it is recommended that the evaluation be conducted by external contractors under the guidance of a steering committee. The alternative modality of an expert panel supported by an external or internal team is accordingly not recommended. All material concerning any interim evaluation of eContent Plus should be made available to the interim evaluation panel if available. The final evaluation reports on eTEN should be made available to the interim evaluation panel.

4.3 Final Evaluation of ICT-PSP

The specific legal base for the programme calls for a ‘Final Evaluation’ in 2011, whilst general EC requirements dictate an *ex post* evaluation in 2015. This latter would qualify as a ‘final’ evaluation in the terminology of the EC Guidelines for Evaluation, whilst the Final Evaluation referred to in this section would be referred to, in that terminology, as a Second Interim evaluation. It is recommended that the 2011 evaluation be referred to as ‘Final’ (to avoid conflict with the legal base) but it is also recommended that its activities should include both those expected of a late stage second interim evaluation and those specifically called for by the specific legal base of the ICT-PSP.

4.3.1 Objectives and Scope of Final Evaluation

The final evaluation should consider whether the effects of the ICT-PSP’s interventions:

- Continue to have been **relevant** to the needs and problems of the programme²⁵;
- Have been **efficient** in their operation and in their use of resources;
- Have been **effective** in addressing the objectives of the programme; and
- Show good likelihood of generating the **broader impacts** on society looked for by the programme and have the potential for **sustainability** in that they will

²⁵ This should supplement but not replace the work of the Interim evaluation.

continue in the future without further assistance.

Annexe VII provides indicative lists of evaluation questions under the headings of relevance, efficiency, effectiveness and broader impacts and sustainability. Under these headings we also identify the evidence required by the evaluation, sources, appropriate indicators and the means by which necessary evidence may be gathered.

4.3.2 Intended Utility of Final Evaluation

The Final Evaluation of the ICT-PSP will provide summative guidance to programme management concerning relevance, efficiency, effectiveness and broader impacts and sustainability. It will feed into the Final Evaluation of the CIP as a whole. Very importantly, it will inform Work Programme design for any follow-up programme for instance by showing whether and where the ICT-PSP made a difference and the extent of changes in the market conditions applying. It will also assist in the assessment of the achievements of the i2010 initiative.

4.3.3 Timetable for the Final Evaluation

Relation to the Final Evaluation of the CIP

The Final Evaluation of the CIP must be completed by 31st December 2011. This will create tension between the need to have as much meaningful material as possible available to the final evaluation of the ICT-PSP and the practicalities of combining elements into the overall CIP final evaluation. In other words, it is necessary on one side to ensure that activities from the final Call are under way and that activities from earlier Calls have had time to produce results and foreshadow outcomes and on the other to provide timely evaluation input and obtain maximum synergy of evidence gathering and analytic activities. (It is recommended that part of the response to this challenge should be enhanced use of qualitative or judgement-based indicators and ‘weak signal’ evidence of emerging impacts). It is recommended that the full final report of the ICT-PSP final evaluation should be available by 30th April 2011 and additionally that a good draft (i.e. with all sections substantially present) should be available by 31st March 2011.

Duration of the Evaluation

The same tension arises over the duration of the evaluation: at least six months would be desirable but this would limit the value of preparatory reporting due to the limited length of time for which projects (especially those commissioned in the last Call) will have been under way prior to the evaluation. It is therefore recommended that the

evaluation should commence on 1st September 2010, present its conclusions by the end of March 2011 and, with one month for final editing, complete work on 30th April 2011.

Prior Reporting (studies etc)

It is further recommended that all prior studies be undertaken in the period 1st January 2010 to 31st August 2010 in order that results should be available in a timely fashion for the evaluation team. They should not start prior to this, in order that they should sufficiently reflect the effects of activities.

4.3.4 Organisation of the Final Evaluation

Given the extent of stakeholder surveys necessarily involved, and the limited window of opportunity for the conduct of the evaluation, it is recommended that the evaluation be conducted by external contractors under the guidance of a steering committee. The alternative modality of an expert panel supported by an external or in-house team is accordingly not recommended. All evaluation materials for eContent Plus should be made available to the final evaluation panel.

4.4. Timeline

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Overall CIP			CIP Interim		CIP Final	Ex ante 2 nd CIP			Ex Post CIP
Specific Programme			PSP Interim		PSP Final	Ex ante 2 nd PSP			Ex post PSP

In order to achieve this timeline:-

- Data collection for monitoring should begin at the time of publication of the first Work Programme in 2007;
- Prior studies for the ICT-PSP interim evaluation should begin in January 2008; and
- Prior studies for the ICT-PSP final evaluation should begin in January 2010.

**Study supporting the
formulation of an
evaluation and monitoring
strategy for the
CIP ICT PSP**

Annexes to Final Report

Rand Europe

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Annexes to Deliverable D2

- Final

16/03/2007

Prepared for the European
Commission, Information
Society and Media DG



EUROPE

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Annexe I Legal Basis for Evaluation and Monitoring in the CIP

Article 8 Monitoring and evaluation

1. The Commission shall regularly monitor the implementation of the Framework Programme and its specific programmes. It shall also examine synergies within the Framework Programme and with other complementary Community programmes and, where possible, synergies with national programmes co-funded by the Union. Where possible, it shall examine the gender dimension and the respect of the principle of non-discrimination in programme activities.

The Commission shall draw up an annual implementation report for the Framework Programme and for each specific programme examining the supported activities in terms of financial implementation, results and, where possible, impact. The annual report on the Entrepreneurship and Innovation Programme shall clearly identify eco-innovation activities.

2. The Framework Programme and its specific programmes shall be subject to interim and final evaluations. Such evaluations shall examine issues such as relevance, coherence and synergies, effectiveness, efficiency, sustainability, utility and, where possible and appropriate, distribution of funding with regard to sectors. The final evaluation shall, in addition, examine the extent to which the Framework Programme as a whole, and each of its specific programmes, has achieved its objectives.

Both interim and final evaluations shall adopt appropriate methodologies to measure the impact of the Framework Programme, and each of the specific programmes, against its objectives, including competitiveness, innovation, entrepreneurship, productivity growth, employment and environment.

Such evaluations shall examine the quality of the services referred to in Article 21(2) provided by the network partners. The interim evaluations may also include ex post evaluation elements with regard to previous programmes.

3. The interim and final evaluations of the specific programmes and the necessary budgetary allocations shall be included in the respective annual work programmes.

The annual work programmes shall define a set of measurable objectives for each specific action and develop appropriate evaluation criteria and a set of quantitative and qualitative indicators to measure effectiveness in delivering outcomes that will contribute to the achievement of the objectives of the Framework Programme as a whole and the objectives of the relevant specific programme.

The interim and final evaluation of the Framework Programme and the necessary budgetary allocations shall be included in the annual work programme for the Entrepreneurship and Innovation Programme.

4. The interim evaluation of the Framework Programme shall be completed by 31 December 2009 and the final evaluation by 31 December 2011.

The interim and final evaluations of the specific programmes shall be arranged in such a way that their results can be taken into account in the interim and final evaluation of the Framework Programme.

5. The Commission shall communicate the annual implementation reports, the results of the interim and final evaluations of the Framework Programme and of its specific programmes to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions.

Source: Decision of the European Parliament and of the Council No 1639/2006/EC of 24 October 2006

Annexe II Definitions of ‘Interim’ and ‘Final’ Evaluation (from EC Guidelines)

Interim and ex post evaluation for learning and accountability

Interim and ex post evaluations, as the names suggest, take place respectively during and after the implementation of an intervention. The results of these evaluations are used to support management, organisational learning, planning and policy making and for accountability purposes. Ex post evaluations in particular, but also interim evaluations, tend to be conducted by external evaluators in order to render their conclusions more credible for accountability purposes.

The focus of evaluations of this nature is first and foremost on the effects of an intervention on target publics/geographical areas (particularly in the case of programmes, financial and legal instruments with socio-economic or environmental objectives) drawing primarily on both quantitative and qualitative data collected. Furthermore, evaluators analyse implementation arrangements and processes in order to assess how the latter affect the attainment of objectives and to be able to provide concrete and practical recommendations for improvement. At the heart of an evaluation of this nature is an assessment of **causality**, i.e. an analysis of the extent to which observed effects on target publics/geographical areas are likely to be a consequence of the intervention.

Interim and ex post evaluations are structured around a number of key issues that direct the process of data collection and analysis. Firstly, an intervention should be designed to respond to identified problems, needs and/or issues that manifest themselves in geographical area/target populations that are potential recipients of assistance. If the objectives of an intervention address the needs, problems and/or issues identified, the intervention strategy can be judged as respecting the criterion of **relevance**. The implementation of the strategy depends firstly on the mobilisation of sufficient and appropriate resources (or inputs) that are used to supply outputs, and secondly where relevant on the demand for these outputs from addressees. However, the focus of an evaluation is by definition mainly on the effects of an intervention on target areas/populations and whether these effects:

- correspond with objectives (**effectiveness**);
- are achieved at reasonable cost (**efficiency**);
- correspond with needs, problems and issues over and beyond those embodied in stated objectives (**utility**);
- are likely to continue into the future in the absence of assistance (**sustainability**).

Furthermore, the focus of an evaluation differs according to whether it takes place at the intermediate or ex post stage of the programming cycle. The table below presents these variations.

Issue	Interim evaluation	Ex post evaluation (ongoing evaluation of a policy)
Relevance	Yes	No
Effectiveness	Yes in respect to implementation and early effects	Yes
Efficiency	Yes in respect to implementation and early effects	Yes
Utility	Sometimes	Yes
Sustainability	No	Yes

The final output of an interim or ex post evaluation is always a formal report (and various derivative products), which is not necessarily the case for ex ante evaluation.

In reality, the three-stage evaluation cycle has to be adapted to the specific circumstances of an intervention, and hence a single evaluation may be conducted at a critical moment in the implementation of an intervention that incorporates elements of ex ante, interim and ex post evaluation exercises, assessing past performance and examining issues of relevance to its future design.

Annexe III Objectives of the ICT-CIP as defined in the Council Decision

Article 26

Establishment and objectives

1. A programme in support of information and communication technologies policy, hereinafter ‘the ICT Policy Support Programme’, is hereby established.
2. The ICT Policy Support Programme shall provide for the following actions:
 - (a) development of the Single European information space and strengthening of the internal market for information products and services;
 - (b) stimulation of innovation through a wider adoption of and investment in ICTs;
 - (c) development of an inclusive information society and more efficient and effective services in areas of public interest, and improvement of the quality of life.
3. The actions referred to in paragraph 2 shall be carried out with a particular emphasis on promotion and awareness raising of the opportunities and benefits that ICTs bring to citizens and businesses.

Article 27

The Single European information space

Action in relation to the Single European information space shall aim at:

- (a) ensuring seamless access to ICT-based services and establishing appropriate framework conditions for rapid and appropriate take up of converging digital communications and services, including interoperability, security and trust aspects;
- (b) improving the conditions for the development of digital content with a special emphasis on multilingualism and cultural diversity;
- (c) monitoring the European Information Society, through data collection and analysis of the development, availability and use of digital communication services including the growth of internet, access to broadband as well as developments of content and services.

Article 28

Innovation through the wider adoption of and investment in ICTs

Action in relation to innovation through the wider adoption of and investment in ICTs shall aim at:

- (a) promoting innovation in processes, services and products enabled by ICTs, in particular in SMEs and public services, taking into account the necessary skills requirements;
- (b) facilitating public and private interaction as well as partnerships for accelerating innovation and investments in ICTs;
- (c) promoting and raising awareness of the opportunities and benefits that ICTs bring to citizens and businesses and stimulating debate at the European level on emerging ICT trends.

Article 29

An inclusive Information Society, more efficient and effective services in areas of public interest and improved quality of life

Actions in relation to the development of an inclusive information society and more efficient and effective services in areas of public interest, and the improvement of quality of life shall aim at:

- (a) widening ICT accessibility and digital literacy;
 - (b) reinforcing trust and confidence as well as support of ICT use, addressing, in particular, privacy concerns;
 - (c) improving the quality, efficiency and availability of electronic services in areas of public interest and for ICT enabled participation, including interoperable pan-European or cross border public services as well as the development of common interest building blocks and sharing good practices.
- (a) development of the Single European information space and strengthening of the internal market for information products and services;
 - (b) stimulation of innovation through a wider adoption of and investment in ICTs;
 - (c) development of an inclusive information society and more efficient and effective services in areas of public interest, and improvement of the quality of life.

3. The actions referred to in paragraph 2 shall be carried out with a particular emphasis on promotion and awareness raising of the opportunities and benefits that ICTs bring to citizens and businesses.

Annexe IV Information Sources: the Documentary Evidence Base

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Group 1: Policy and the Background to Policy

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Annexe VI The Interim Evaluation

Contents

Evaluation Questions

Evidence required by the evaluation

Sources of evidence; indicators and guidance

Modalities of evidence gathering

A.Evaluation Questions

(A1) Relevance

- Is the set of activities underway a sufficient response to the Work Programme objectives, (are there activities relating to each objective?) and is the balance reasonable; (or should effort be refocused?).
- Are the activities under way responsive to the wider agenda²⁶ of the CIP?
- Do the activities address the wider agenda of the ICT Policy Support Programme?
- Are the activities under way responsive to the wider agenda of the i2010 initiative?
- Did the planning of the activities and/or themes reflect an *ex ante* assessment of the type of market failure present, and do they address some element of market failure?
- Are the IST-PSP's activities and broader objectives aligned with key stakeholders' interests (i.e. does the Programme address unmet and essential public needs)?

(A2) Efficiency

- Has the implementation of the Programme by the Commission been satisfactory?
In particular
 - Was the programme's existence (and particularly any Call for proposals) sufficiently publicised to the whole stakeholder community?
 - Was the whole stakeholder community sufficiently involved in the Work Programme generation process (and any subsequent revision process)?
 - Were the processes leading to participation and/or grant allocation fair, open, transparent and fully accessible to all stakeholders at all stages?
 - Were management information and ICT systems used by programme management appropriate, sufficient and compatible with those in use in the CIP elsewhere and/or in ICT-RTD?
 - Were tendering and contract procedures in conformity with applicable rules, notably the 'Practical Guide to Contract procedures for EC External Actions'?
- Were the overall legal framework (including rules for participation, contracts and

²⁶ This feeds into CIP evaluation – similar 'feeds' for other 'external' questions.

applicable aspects of Financial Regulation), policy instruments and implementation modalities clear, appropriate and effective²⁷?

- Were the instruments for implementing activities suitable for the purpose? In particular:
 - To what extent are reporting, financial and procedural requirements adequate and appropriate²⁸?
 - How adequate and timely are financial provisions²⁹?
 - Are credential and certification procedures effective and efficient?
 - Is the extent and composition of co-financing appropriate³⁰?
 - Do the instruments as deployed provide appropriate continuity³¹?
 - Consideration given to (and use made of) other instruments³²? If so, have they been used (how, under what circumstances, with what result?) Are there any procedural or other barriers to their use?
 - [possibly] Specific activities to secure, and experience with, mixed public-private financing and participation. To what extent and at what stage are

²⁷ This is not meant to encourage an evaluation of the regulations or framework *per se* but only of their match with the specifics of the Programme. A subsidiary question is whether the rules altered issues of substance such as the choice of action lines, structure of consortia.

²⁸ The intent is to examine the overall burden and its division among stakeholders (project, Programme, other), with special emphasis on such issues as whether requirements are proportionate to the needs of sound management, project success, broader IST-PSP objectives and accountability. There is a further issue of whether required information is useful to others: does the material gathered for the EC help the project, etc.

²⁹ The intent is to probe amounts available in relation to Work Plan objectives, ‘minimum efficient scale’ of projects and attainment of critical mass. Pragmatically, the question seeks to establish whether budgets are available when needed and whether budget, procedural and substantive timetables conflict or work well together. This question also asks whether financial arrangements associated with the Instruments are a barrier or incentive to participation by research, market and/or public sector stakeholders. This question is *not* about per-project funding, co-funding rates and eligibility rules (see below).

³⁰ The intent here is to ascertain whether external co-finance foreseen by funded projects actually materialises, additionality and the fate of unfunded projects. A related sub-issue is whether governance, reporting and repayment requirements of combined finance cause any problems for the projects.

³¹ The intent here is to examine the ‘trajectory’ of ideas and consortia through the life-cycle: identification and uptake of projects originating in RTD programmes (‘incumbent advantage’, more or less successful compared to ‘outside’ or new parties); in the case of large pilots, the flow of people and ideas into and out of the pilot while it is underway (in supply, demand and co-funding roles); and – for completed projects, the role of Programme support (at both project and Programme levels) in making the transition to full-scale roll-out (in volume or pan-European scale), needing to take on additional financing (external or self-generated), personnel and/or partners.

³² The intent here is to address the specificities of (esp.) large-scale pilots compared to thematic networks and other support activities.

mixed models considered and pursued? What procedural, practical and substantive problems were encountered? Has experience with various forms of public-private partnership in other areas provided useful guidance?

- [as events dictate] How efficiently were transitions (e.g. CIP/eTEN/eContent+ convergence) managed, and what lessons can be drawn for the future?
- Were the levels of funding and other available resources adequate³³?
- Were the targeted communities, including SMEs, able to respond appropriately

(A3) Effectiveness

- Has there been progress towards achieving the objectives set for the ICT-PSP?
 - To what extent is this progress associated with ICT-PSP activities?
- Has there been progress towards achieving the objectives set for the CIP?
 - To what extent is this progress associated with ICT-PSP activities?
- Has there been progress towards achieving the objectives set for the i2010 initiative?
 - To what extent is this progress associated with ICT-PSP activities?
- Do all activities show either sufficient direct SME³⁴ involvement to meet the programme's objectives or, alternatively, do they produce sufficient demonstrable indirect benefits to SMEs (e.g. reductions in administrative burden etc)?
- Is there evidence of coherence and continuity of support between RTD and deployment activities?

³³ The intent here is to collect participant's views of the adequacy of funding in terms of amounts per project, the leverage provided against external finance and the appropriateness and proportionality of conditionality.

³⁴ There is a strategic choice to be made as to whether the SME obligation in the Legal Base is to be evaluated at the activity or the aggregate level (i.e. in the majority or collectively). The second approach gives more scope for fitting SME engagement (or other 'societal' objectives) to project specificities and for identifying and managing complementarity. The drawbacks are that the evidence is not simply obtained by adding up individual activities and that positive or negative conclusions may be purely fortuitous. If the intent is to identify conscious management of these obligations, this may be insufficient. It certainly falls short of the evaluation ideal of attribution. A more satisfactory approach is to combine activity-level data with aggregate data. For these obligations, either the portfolio or Programme levels may be most appropriate.

- Is there evidence of synergies³⁵ within and across themes; within and across EC funding programmes; and with national programmes?
- Is there any advance indication that the outcomes of activity will lead to longer term socio-economic benefit?

B. Evidence Required by the Evaluation

(B1) Overall and Strategic Issues

- Analysis of activities against specific WP objectives
 - By # activities
 - By # participants
 - By nationality of participants
 - By type of participant (SME/PSRI, etc.; market sector; Public/Private/NFP, etc.)
 - By financial contribution
- Analysis of activities against CIP general objectives
- Analysis of activities against ICT-PSP specific objectives
- Analysis of activities against i2010 objectives
 - By i2010 themes
- Review of studies of *ex-ante* evidence of market failure
 - By theme
 - By activity if thematic evidence insufficient

Note: the evidence is needed to classify the type of market failure and the mechanism by which the activities address it. The data are routinely available from public and proprietary sources. An initial classification is:

- Supply side

³⁵ Evidence of synergies can come from: data on actual coordination or interaction activities, similarity of objectives (consonance), explicit complementarity of Work Programmes or ‘results-orientated’ evidence that activities from one theme, etc. have been used in another.

- Barriers to entry (of specific innovations, firm types, financial models – financial, technical, legal)
- Abuse of dominance (structural, conduct indicators)
- Financial limitations facing incumbents
- Distortions on the amount and type of investment (*in toto* and by sector, firm type, proportion devoted to RTD, adapting technology, cost-reduction, product improvement)
- Demand side
 - Launching customer role (demand-pull aimed ultimately at private market uptake)
 - Services of general interest (new public sector demand – overcoming entry barriers. Risk aversion, demand aggregation/co-ordination) – ultimate need is to strengthen public sector uptake
 - Limited diffusion to pan-, trans-European level
 - Intended mechanism(s) to address failures:

Demand-pull	Supply-push	Standardisation	Demonstration effect
Critical Mass	Consortium, network building	Risk reduction	Trans-European deployment
- Other contextual tracking data, including public procurement level and placement, analogous Member State activities (modalities, action lines, funding and participation)

(B2) Efficiency

- Reporting of events against foreseen timeline
 - Availability of Work Programme; Guides to Proposers; Draft Contracts; Web Site; Calls; Information Points; Guides to Proposal Evaluation.
 - Timelines on evaluation of proposals; negotiation; signature of contracts.
 - Schedule for project review
- Analysis of suitability/quality of materials listed above (were they clear,

appropriate and effective) in the opinion of the stakeholders?

- Management Reporting on communications activities
- Management Reporting on work programme consultations
- Analysis of stakeholder feedback on fairness, openness and transparency of practices.
- Management Reporting on ICT systems use.
- Certification of compliance with contract procedures.

(B3) Effectiveness

- Synopses of projects; reports from the evaluation of accepted proposals; project reviews
- Monitoring reports on SME involvement
- Monitoring reports on 'pull-through' from RTD (database exchange with FP7?)
- Analysis of feedback on the effectiveness of activities within each theme from the views of all stakeholders groups; and of synergies across themes.
- Analysis of survey data on interplay with other EC funding programmes and with national programmes
- Analysis of survey data from activity participants³⁶ on anticipated viability and prospects of full roll-out (or evolution to more mature versions) and longer term socio-economic benefits.
- Analysis of statistical data against specified indicators appropriate at this stage including for instance:

Quality and effectiveness of content accessibility by different devices
Speed of interconnections and services available between and within national research and education networks (NRENs) within EU and worldwide
Percentage of EU websites in the national top 50 visited
Perceived quality of public service multilingual websites
Citizens access to and use of the internet
Enterprises access to and use of ICTs

³⁶ Survey data should poll populations at various stages, e.g. those expressing interest, proposers (successful and unsuccessful, consortium co-ordinators and partners).

Information Society Policy indicators

Perceived security. Quality of filtering technologies. Number of network security concerns. Number of criminal cases on the internet. Internet users' experience and usage regarding ICT-security

Amount of government information (by pages or by megabytes) which is digitised and available on-line

Public use of government on-line services – for information / for submission of forms

Percentage of public procurement which can be carried out on-line

Quality and efficiency of on-line services. Impact on quality of life

Percentage of teachers using the internet for non-computing teaching on a regular basis

Percentage of workforce with (at least) basic IT training

Number of places and graduates with ICT related third level education

Percentage of workforce using telework

C.Sources of Evidence; Indicators; and interpretive comment

As far as possible, the data to be used are already collected. The following remarks address the specific sources of evidence and considerations raised by the need to combine them in order to address the evaluation questions. In order to maintain consistency, all evaluations should produce explicit logical frameworks and/or logic models at an early stage, based on prior and/or lower-level frameworks.

(C1) Overall and Strategic Issues

The interim evaluation will draw heavily on on-going monitoring activities for data for this sector of its work, and in particular on the resulting reporting activities of programme management. Market failure and contextual factor analysis may require the procurement of (annual) studies by the E & M unit to track the evolving situation in each theme.

(C2) Efficiency

The interim evaluation will draw on the E & M unit and/or programme management for the reporting of events against timeline; on the reporting of the independent observers at the evaluation of proposals; (to the extent available) on reviews of projects in progress; on communications activities and ICT systems in use, and on compliance with standards for contract procedures.

Stakeholder perceptions will be critical and will require specific surveys (e.g. by a

dedicated support team for the interim evaluation). A Benchmarking study of the effectiveness of management vis-à-vis comparable activities in ICT-RTD; in other EC funded activities; and in other national/international programmes is recommended: this would require separate action by the E & M unit.

Where the term ‘sufficiently’ is used, the intent is to indicate that it is not necessarily appropriate to use participation percentages based on a large population as an indicator. Specific populations are more ‘natural’ targets for IST-PSP initiatives. Indicators include survey based measures of awareness, participation in Info Days, contacts with NCPs, requests for information and proposals for the ex ante phase and partnering connections between project participants and others in the interim and ex post phases of a given project. They should be scored relative to the target population. Thus the evaluation strategy involves: i) identifying the relevant population, ii) collecting the indicator data (in native form); iii) determining the intersection of these data with the target population; and iv) scoring against the reference population and also counting (or scoring against this group) awareness among other populations.

In assessing the involvement of stakeholders in the Work Programme and revisions, it is particularly important to examine consultation, expression of interest and concertation activities. Scoring should consider the extent and range of participation (the number and characteristics of the participants) and the degree to which the Programme sought to involve e.g. those who’d previously expressed interest, successful and unsuccessful proposers, personnel involved in complementary or parallel initiatives at EC and MS levels and stakeholders from the broader supply and demand sides (e.g. potential partners of CIP projects in mature market phases, potential public sector clients, etc.).

In measuring transparency, fairness, openness and accessibility, it is important to take account of selection effects – a process may be ‘accessible’ in that it is feasible to participate, and yet fail to attract the right numbers and kinds of participants. In other words, accessibility depends in part on the absence of technical, commercial or institutional barriers and in part on awareness and expectations. The evidence relating to barriers includes ‘hard’ data on usability and cost (e.g. via a Standard Cost Model) with subjective data drawn from participants and relating to complexity, transparency, etc. The evidence relating to expectations is primarily subjective (survey-based) and must sample non-participants as well.

In assessing management information and ICT systems, a key aspect is interoperability

and interchange. As with accessibility, the evaluation should look for (the absence of) technical barriers and incompatibility and for evidence of actual interchange and interoperation.

In considering the relevance and appropriateness of specific instruments, evaluation should take into account both the direct Programme level impact of instrument choice and the consequences that flow up from procurement, proposal and project implementation. With regard to the first, the analysis considers the tradeoffs involved – e.g. critical mass, visibility and the possibility for positive feedback vs. portfolio diversification and greater *ex ante* willingness to take ‘small’ risks. Particularly tricky in this respect is the identification of a suitable comparator. The results (identification of the strengths and weaknesses of the instruments chosen) will eventually be compared with those arising from other CIP pillars, where different mixes were chosen. Therefore, the emphasis is less on evaluation in a normative sense than on identification of good practices and risks and on codification of lessons learned. In terms of the implementation lessons, the evidence must begin with a consideration of the impact on initial engagement – to what extent are potential participants: deterred by low odds of winning; attracted by large scope, critical mass and the opportunity to build strong and diverse consortia; restricted in their offers by the Terms of Reference; and/or inclined to build consortia around dominant players (in the market sector involved) or strong Programme incumbents? The next step touches on the proposals: the extent to which proposed management, workflow and substantive relationships are specified and pursued during the project; the identification and assessment of risks, etc. Finally, evidence of consortium management efficiency within and beyond the project can be used to indicate the effectiveness of the organisational form and resource modalities.

In evaluating mixed-mode activities (participation and/or support), consideration should be given to inputs (financial, human, informational resources), decision making (including shared management), activities (the effectiveness of joint work) and outputs (including IPR arrangements).

(C3) Effectiveness

In order to consider early signs of effectiveness it will be necessary for the evaluation to call on the E & M unit and/or programme management for monitoring reports on SME involvement and possibly on ‘pull-through’ from RTD, although a specific study may be preferred in order to make a sufficiently convincing response to the requirements of the legal base. Aside from these reports (and from the use of normal

management documentation concerning projects being funded), the assessment of effectiveness will be heavily dependant on specifically acquired survey data. Data relating to the specific indicators (from e.g. Eurobarometer) cannot be expected to show movement sufficiently quickly to allow confident assessment at the interim evaluation stage, although it will be necessary for the interim evaluation to record relevant observations arising from monitoring reports, if only to help inform the final evaluation. Specific survey (e.g. by a dedicated support team) should address stakeholder views on:

- The effectiveness of activities at making significant impact on thematic areas
- Synergies across themes and with other EC and national programmes including other CIP areas
- Anticipated viability and prospects of roll-out (including roll-out of variant or evolved services) and of longer term socio-economic benefits arising

Provision should be made for support to the evaluation in generating case studies to highlight benefits but (given the comparatively early date of the interim evaluation) it is essential to avoid allowing the success of the evaluation becoming hostage to the success of the case study gathering.

D.Summary of Modalities of Evidence Gathering

(D1) Stakeholder Survey (includes unsuccessful proposers)

- Fairness, openness and transparency of processes (B2)
- Suitability & quality of information & communications (B2)
- Effectiveness of activities within themes and synergies across themes (B3)
- Interplay with other EC / national programmes (B3)

(D2) Participant Survey

- Anticipated viability & roll out prospects (B3)

(D3) Studies

- State-of-the-Market within themes (with annual updates to track elements of market failure) (C1)
- Formative Benchmarking study of management effectiveness with ICT-RTD and / or other analogous programmes (C2)

- (Provisional) SME involvement and benefits (C3)

(D4) Case Studies

- (Provisional) Assessment of long-term benefits (C3)

(D5) Monitoring Reporting

- SME involvement (B3)
- Pull through from RTD (B3)
- Status of indicators identified in the Impact Assessment for ICT-PSP (B3)

(D6) Management Reporting

- Mapping of activities against objectives (B1)
 - of the CIP
 - of the ICT-PSP
 - of i2010
- Performance against timeline (B2)
- Annual report on communications activities (B2)
- Summary reports on ICT systems use (B2)
- Certification of compliance with contract procedure (B2)
- Project files (B3)
 - Synopses
 - Evaluation summaries (successful proposals)
 - Reviews
 - Project Officers' reports

Annexe VII The Final Evaluation

Contents

Evaluation Questions

Evidence required by the evaluation

Sources of evidence; indicators and guidance

Modalities of evidence gathering

A.Evaluation Questions

NB where appropriate, these questions update the corresponding area of the interim evaluation.

(A1) Relevance

- Was the set of activities undertaken a sufficient response to the Work Programme objectives, (were there activities relating to each objective?) and was the balance reasonable?
- Were the activities responsive to the wider agenda of the CIP?
- Were the activities responsive to the wider agenda of the ICT Policy Support Programme?
- Were the activities responsive to the wider agenda of the i2010 initiative?
- Did the planning of the activities and/or themes reflect an *ex ante* assessment of the type of market failure present, and do they address some element of market failure?
- Was there an appropriate response to recommendations of the interim evaluation of ICT-PSP and / or of the CIP?
- Were the IST-PSP's activities and broader objectives aligned with key stakeholders' interests (i.e. did the Programme address unmet and essential public needs)?

(A2) Efficiency

- Was the implementation of the Programme by the Commission satisfactory? In particular
 - Was the programmes existence (and particularly was any Call for proposals) sufficiently publicised to the whole stakeholder community?
 - Was the whole stakeholder community sufficiently involved in the Work Programme generation process (and any subsequent revision process)?
 - Were the processes leading to participation and/or grant allocation fair, open, transparent and fully accessible to all stakeholders at all stages?
 - Were management information and ICT systems used by programme management appropriate, sufficient and compatible with those in use in the CIP elsewhere and/or in ICT-RTD?

- Were tendering and contract procedures in conformity with applicable rules, notably the ‘Practical Guide to Contract procedures for EC External Actions’?
- Were the overall legal framework (including rules for participation, contracts and applicable aspects of Financial Regulation), policy instruments and implementation modalities clear, appropriate and effective?
- Were the instruments for implementing activities suitable for the purpose?
- Were the levels of funding and other available resources adequate?
- Were the targeted communities, including SMEs, able to respond appropriately?

(A3) Effectiveness

- Has there been progress towards achieving the objectives set for the ICT-PSP?
 - To what extent is this progress associated with ICT-PSP activities?
- Has there been progress towards achieving the objectives set for the CIP?
 - To what extent is this progress associated with ICT-PSP activities?
- Has there been progress towards achieving the objectives set for the i2010 initiative?
 - To what extent is this progress associated with ICT-PSP activities?
- Did all activities show either sufficient direct SME involvement to meet the programme’s objectives or, alternatively, did they produce sufficient demonstrable indirect benefits to SMEs (e.g. reductions in administrative burden etc).
- Is there evidence of coherence and continuity of support between RTD and deployment activities?
- Is there evidence of synergies within and across themes; within and across EC funding programmes; and with national programmes?
- Is there any indication that the outcomes of activity will lead to longer term socio-economic benefit?

(A4) Broader Impact & Sustainability

- Have patterns of user activity within the themes shifted in the desired direction?
- Has any such shift migrated fully from one phase of user activity to the next (e.g. from computerisation; to one-way transaction; to two-way transaction; to full interaction; to transformation)?

- Has co-funding levered substantially more investment in the themes concerned?
- Has the functioning of the market within themes been improved?
- Has EC funded activity inhibited non-funded activity in the theme?
- Has an effective business / operational model emerged for concerned themes?
- Has there been ascribable progress against the list of indicators below?

<p>Quality and effectiveness of content accessibility by different devices</p> <p>Speed of interconnections and services available between and within national research and education networks (NRENs) within EU and worldwide</p> <p>Percentage of EU websites in the national top 50 visited</p> <p>Perceived quality of public service multilingual websites</p> <p>Citizens access to and use of the internet</p> <p>Enterprises access to and use of ICTs</p> <p>Information Society Policy indicators</p> <p>Perceived security. Quality of filtering technologies. Number of network security concerns. Number of criminal cases on the internet. Internet users' experience and usage regarding ICT-security</p> <p>Amount of government information (by pages or by megabytes) which is digitised and available on-line</p> <p>Public use of government on-line services – for information / for submission of forms</p> <p>Percentage of public procurement which can be carried out on-line</p> <p>Quality and efficiency of on-line services. Impact on quality of life</p> <p>Percentage of teachers using the internet for non-computing teaching on a regular basis</p> <p>Percentage of workforce with (at least) basic IT training</p> <p>Number of places and graduates with ICT related third level education</p> <p>Percentage of workforce using telework</p> <p>Levels of ICT investment</p> <p>Employment in the on-line content sector</p> <p>Percentage of companies that buy / sell over the internet</p>

- Has there been an ascribable benefit on jobs and activity in the EC25?
- Is there reason to think that sustainable growth will follow?

B.Evidence Required by the Evaluation

NB where appropriate, evidence should update that for the interim evaluation.

(B1) Overall and Strategic Issues

- Analysis of activities against specific WP objectives
 - By # activities
 - By # participants
 - By nationality of participants
 - By financial contribution
- Analysis of activities against CIP general objectives
- Analysis of activities against ICT-PSP specific objectives
- Analysis of activities against i2010 objectives
 - By i2010 themes
- Review of studies of evidence of market failure
 - By theme
 - By activity if thematic evidence insufficient

(B2) Efficiency

- Reporting of events against foreseen timeline
 - Availability of Work Programme; Guides to Proposers; Draft Contracts; Web Site; Calls; Information Points; Guides to Proposal Evaluation.
 - Timelines on evaluation of proposals; negotiation; signature of contracts.
 - Schedule for project review
- Analysis of suitability/quality of materials listed above (were they clear, appropriate and effective) in the opinion of the stakeholders?
- Management Reporting on communications activities
- Management Reporting on work programme consultations
- Analysis of stakeholder feedback on fairness, openness and transparency of practices.
- Management Reporting on ICT systems use.
- Certification of compliance with contract procedures.

(B3) Effectiveness

- Synopses of projects; reports from the evaluation of accepted proposals; project reviews
- Monitoring reports on SME involvement
- Monitoring reports on 'pull-through' from RTD
- Analysis of feedback on the effectiveness of activities within each theme from the views of all stakeholders groups; and of synergies across themes.
- Analysis of survey data on interplay with other EC funding programmes and with national programmes
- Analysis of survey data from activity participants on anticipated viability and prospects of full roll-out (or evolution to more mature versions) and longer term socio-economic benefits.

(B4) Broader Impact & Sustainability

- Analysis of survey data from stakeholders on patterns of user activity within themes; migration of usage patterns; effects of co-funding & occurrence of business models
- Repeat studies of the state-of-the-market within themes, and of shifting elements of market failure
- Monitor reports on indicators used (in A4).

C.Sources of Evidence; Indicators; and Modalities of acquiring data

(C1) Overall and Strategic Issues

The final evaluation will draw on on-going monitoring activities for data for this sector of its work, and on the reporting of programme management. Market failure analysis will again require the procurement of (annual) studies by the E & M unit to track the evolving situation in each theme, updating the interim evaluation as appropriate.

(C2) Efficiency

The final evaluation will again draw on the E & M unit and/or programme management for the reporting of events against timeline; on the reporting of the independent observers at the evaluation of proposals; (to the extent available) on reviews of projects in progress; on communications activities and ICT systems in use, and on compliance with standards for contract procedures.

Stakeholder perceptions will again require specific surveys (e.g. by a dedicated support

team for the final evaluation). A follow-up Benchmarking study of the effectiveness of management vis-à-vis comparable activities in ICT-RTD; in other EC funded activities; and in other national/international programmes is recommended: this would require separate action by the E & M unit.

(C3) Effectiveness

The evaluation will call on the E & M unit and/or programme management for monitoring reports on SME involvement and on ‘pull-through’ from RTD, where again a specific study may be preferred in order to make a sufficiently convincing response to the requirements of the legal base. Aside from these reports (and from the use of normal management documentation concerning projects being funded), the assessment of effectiveness will be dependant on specifically acquired survey data. Specific survey (e.g. by a dedicated support team) should address stakeholder views on:

- The effectiveness of activities at making significant impact on thematic areas
- Synergies across themes and with other EC and national programmes including other CIP areas
- Anticipated viability and prospects of roll-out (including roll-out of variant or evolved services) and of longer term socio-economic benefits arising

A study will be required to generate case studies to highlight benefits in particular of issues such as reduction of administrative burdens.

Monitoring reports (updating the interim evaluation set) will be required in the various indicators in A3 / A4 above.

(C4) Broader Impact & Sustainability

The broader impacts of the Programme come via changes in the economic climate, relating on the supply side to the pace and direction of innovation, employment (by demographic, locational and skill categories), investment (including capital supplies and return on investment), mobility (of jobs, labour, capital, goods and services). On the demand side, they relate in particular to the growth and distribution of public sector demand, but also to the acceptability and uptake of new goods and services. On the market side, they relate to the competitiveness of the Single Market in a strict sense – the concentration (or otherwise) of market power, export/import patterns, variation (or otherwise) in prices, quality, etc. These impacts are normally tracked and forecast at macroeconomic, sectoral and national level, and there is little point in replicating such studies. However, they provide both trailing and leading indicators of Programme impact and thus must be considered in the

final evaluation. In the monitoring phases, the primary purpose of such consideration is to verify the continuing validity of key assumptions on which the modalities and action lines of the Programme were based and to draw inference as to participation and interaction with other initiatives. In the interim evaluation, this economic analysis serves as a very preliminary check on progress towards overall goals and a possible indicator of the need to change. In the final evaluation, it serves to validate the intervention logic, assess the flexibility and engagement of the Programme (i.e. did the Programme respond appropriately to unfolding developments) and to provide a simple test of attribution. The logic is:

- Is the economy moving in the anticipated direction?
- Did Programme activities cause the movement?
- Would the movement have happened without the Programme?

The first of these is answered empirically on the basis of external studies of economic development. The second is answered by a combination of subjective evidence (key informant interviews including both participants and non-participants) and causality testing. This entails tracking the development of activities and broader outcomes. The Granger causality test checks for associations between major Programme activities and movements in the economy overall.

		Correlation between Programme activities and lagged economic outcomes	
		Significant	No or insignificant
Correlation between economic outcomes and lagged Programme activities	Significant	Complex causal relation	Programme 'causes' economic developments
	No or insignificant	Programme responds to economy	No causal relation

The third question arises because the economic developments that drive the Programme also motivate other initiatives. To the extent that causal testing shows similar patterns with regard to other initiatives (e.g. other CIP Pillars, DTD Programmes, Member State initiatives and other activities under the i2010 chapeau), it is appropriate to conclude that there is a joint effect, especially if the effectiveness analysis shows evidence of coordination and interoperation.

D.Summary of Modalities of Evidence Gathering

(D1) Stakeholder Survey (includes unsuccessful proposers)

- Fairness, openness and transparency of processes (B2)
- Suitability & quality of information & communications (B2)
- Effectiveness of activities within themes and synergies across themes (B3)
- Interplay with other EC / national programmes (B3)
- Economic outcomes relating to further deployment, exploitation and related development

(D2) Participant Survey

- Anticipated viability & roll out prospects (B3)

(D3) Studies

- State-of-the-Market within themes (with annual updates to track elements of market failure) (C1)
- Benchmarking study of management effectiveness with ICT-RTD and / or other analogous programmes (C2)
- SME involvement and benefits (C3)
- Indicators and analyses of macroeconomic and sectoral economic development

(D4) Case Studies

- Assessment of long-term benefits (C3)

(D5) Monitoring Reporting

- SME involvement (B3)
- Pull through from RTD (B3)
- Status of indicators identified in the Impact Assessment for ICT-PSP (B3)

(D6) Management Reporting

- Mapping of activities against objectives (B1)
 - of the CIP
 - of the ICT-PSP
 - of i2010
- Performance against timeline (B2)
- Annual report on communications activities (B2)

- Summary reports on ICT systems use (B2)
- Certification of compliance with contract procedure (B2)
- Project files (B3)
 - Synopses
 - Evaluation summaries (successful proposals)
 - Reviews
 - Project Officers' reports