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Supporting Digital Literacy
Public Policies and Stakeholder Initiatives

Topic Report 1

Final Report

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Reader's Guide

In recognition of the increasing importance of digital literacy and in an effort to promote e-inclusion, the European Commission has launched the project "Supporting Digital Literacy: Public Policies and Stakeholders' Initiatives" of which the present document constitutes the first topic report. The study is aimed at improving the quality of life for disadvantaged groups by suggesting what can be done to help them acquire stronger ICT skills and a better understanding of their potential uses for private and professional ends.

The study has produced 4 Topic Reports which contain a detailed analysis of Digital Literacy (DL). The topic reports are:

Topic Report 1
It provides an overview and comparative analysis of past and present digital literacy (DL) initiatives in each of the 27 Member States as well as in Norway and Iceland, USA, Canada, and India. A total of 464 different initiatives were identified, ranging from large-scale public programmes rolled out nationally and targeting the entire population, to very small-scale third sector actions with very specific target groups. The report describes on the one hand how these initiatives are distributed across key dimensions of DL (rationales, sustainability, motivational measures, platforms, content, accessibility, and usability), and on the other hand what tends to characterise initiatives aimed at specific disadvantaged groups (people with low educational attainment, unemployed, disabled, elderly, young people at risk, women, rural populations, inner city residents, ethnic and cultural minorities, and criminals and substance abusers). Moreover, differences in approaches between country groupings are identified.

Topic Report 2
It investigates indicators and measurement tools employed in the EU27 and beyond with a particular focus on the results of the special module on digital literacy contained in the 2007 edition of the Eurostat Community Survey on ICT usage in Households and by Individuals. This overview and analysis provides information on the current level of digital skills in the European countries. It comprises a discussion on the most relevant barriers to a more intensive use, and it includes an analysis on learning environments conducive to the acquisition of digital skills. The report compares the Eurostat results with findings from other recent studies and it comprises an overview of the most interesting alternative monitoring and measurement initiatives identified alongside the 464 initiatives described in Topic Report 1.

Topic Report 3
It is based on the findings of the first two topic reports, describes and analyses in more detail 30 selected good practice cases. It contains a comprehensive presentation of main enablers of digital literacy analysed in terms of setting relevant objectives, providing effective structure, design, and implementation, maintaining the motivation of target groups, addressing potential barriers, planning and measuring impacts, securing sustainability, and focusing on innovation in approaches, methods, and technologies.

Topic Report 4
Topic report 4 summarises briefly the findings of Report 1, 2, and 3. It situates digital literacy in a broader context as a central measure in forward looking inclusion policies and concludes

by drawing up a list of policy recommendations particularly conducive to achieving i2010 goals.

For further information about the structure and content of each topic report please see the respective tables of contents.

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1 Introduction

This topic report is an analytical synthesis of the data from the country reports (compiled by the regional correspondents together with the Danish Technological Institute (DTI) and now validated by the Member States) first presented in the Summary Report delivered in November 2007. It goes beyond the country status and the individual initiatives to provide an in-depth analysis of core dimensions of Digital Literacy (DL) – both across countries and within the countries.

The report is a cross-cutting analysis in which we want to address the following key issues (as listed in the initial proposal and now complemented by additional input from the DL experts[1]):

- To which extent has DL initiatives targeted disadvantaged groups? Which types of disadvantaged groups have been most in focus?
- What are the most important types of DL initiatives since 2000? Which approaches, methods, and tools have been most widely used?
- Which types of initiatives hold the largest promises in terms of achieving good results? In effective initiatives, what have been the key facilitators for development?
- What has been the role of the various actors? What are the experiences with the involvement of different types of stakeholders?
- To which extent is DL initiatives part of an overall strategy for information society development? What is the evidence of the impacts of a strategic approach on results and impacts of initiatives?
- Looking at the overall landscape of DL initiatives, which (potential) overlaps, synergies, and gaps can be identified, and what are the (potential) implications?

Some of these issues were already addressed in the November 2007 country report Summary Report presented at the DL expert meeting 22. November (of which the main statistics are included here) and several more are also addressed here. These results will be combined to give a map of the landscape of relevant policy initiatives, and it will contain relevant operational information allowing interested parties to make contact and seek information across countries.

However, it is necessary to keep in mind that the analysis in the present Topic Report (Topic Report 1) must be combined with the results of the next phase, i.e. the in-depth good practice case description in phase 4. This is important as much of the data collected in the country reports and the description of DL initiatives presented in the Annex As of the national reports in themselves are not detailed enough to answer all of the qualitative issues raised above.

1.1 Methodology for analysis

The analysis in this report is structured around the analytical framework presented below. The development of such a framework has been a core methodological task as this is vital in order to understand the impact, sustainability, and value of successful DL activities and initiatives (e.g., rationale, platforms used, key target groups, type of content, sustainability, accessibility,

[1] A DL Expert Group was created in November 2007 with a mandate to provide input and guidelines to the review of DL at four meetings in 2008.

and usability), and to provide final recommendations. It is also this analytical framework that will guide the selection of cases for the in-depth analysis description in phase 4. Each country case is not expected to address all the dimensions of the analysis simultaneously, but cases will be chosen to complement each other and together provide a complete image of successful DL actions and requirements.

1.1.1 The data sources that have been included in the analysis are:

1) The 32 country reports.

These reports capture evidence, policies, and trends for ICT in a country, as well as specific initiatives and policies for promoting DL among disadvantaged groups, also at the grass-root level, industry-level, etc, in addition to what is offered by national public agencies.

2) The individual initiatives collected and described in Annex A.

These initiatives have been gathered by correspondents knowledgeable in the area of digital literacy and about the country of origin. The correspondents have used a framework guideline to select and describe relevant cases taking into account the criteria set for selecting cases:

Initiatives have been included that:

- *Have demonstrated good results, in terms of achieving overall or specific objectives in relation to improved digital literacy, in terms of the quality of the methods which have been developed or applied, including the types of digital contents which have been developed, or in terms of the ability to successfully overcome barriers, obstacles or bottlenecks in achieving objectives or developing methods. Efficiency to reach out to disadvantaged groups should be considered in particular in these respects.*
- *Have generated experiences or insights which can inform future policy making on digital literacy.*
- *Have been implemented during the past 7 years, i.e. in the period from 2000 till today.*

At least one of the following criteria must also be fulfilled for a digital literacy initiative to be included in the study:

- *Initiatives should involve more than 500 end users*
- *Initiatives should have a duration of more than 6 months*
- *Initiatives should have a budget of at least € 100.000*
- *Initiatives should involve truly original methods for improving digital literacy*

A second round of identification was subsequently performed specifically to add smaller and more local initiatives. In this round the above criteria were not strictly adhered to. The aim was to achieve a larger number of identified initiatives. Thus, although the list of initiatives is not exhaustive, it is expected that most of the important initiatives in each country for the given time period (2000-2007) have been identified and described. This assumption is also corroborated by the validation by relevant national representatives within the respective countries.

3) Data from Eurostat.

1.1.2 The analytical framework has been developed by considering input from mainly three sources and documents:

1) The template produced by DTI for describing the Annex A initiatives in the country reports.

2) The DL Expert Group. Its comments were received on 22 November 2007 and include the following core issues to be addressed:

- **Motivation.** What makes people participate? Stop thinking of DL in abstract terms, but instead consider the way people think in real life, i.e. "what is it worth to me"? We learn what makes sense and what matters to daily life.
- **Sustainability.** Which projects are still ongoing and why? Identify the critical elements that enable or hinder success and/or sustainability. Be careful not to dispense with cultural differences (between countries, between implementing agencies).
- **Platform and ICT channel**.
- **Access.** Is access enough – here – today, or do we need/expect more? What outcomes do we aspire for – also in the future?
  When impacts are assessed, there will be a tendency to look at access and doing headcounts. The danger is that you evaluate what is easy to evaluate. How do you quantify "critical thinking"? How do you evaluate how people evaluate information?
- **Values.** They way DL is understood varies. Some automatically focus on concrete skills such as reading and writing and others focus on social construction. Moreover, how DL is construed affects how initiatives are put together as well as how initiatives are evaluated. What good is DL to people – do they become happier, do they become more effective?
- **European perspective.** Draw on lessons from media literacy study – lack of shared European vision, lack of European networks, cultural barriers against innovation across Europe, visibility of local, regional, and national initiatives, coordination among stakeholders.

Some of these issues will be addressed in this report and others will be addressed in subsequent reports when more quantitative and qualitative data have been gathered.

3) Input from the European Commission – a first draft of the analytical framework was sent to the Commission, who suggested that additional dimensions and issues be included.

The analytical framework:

LEVEL 1 **Dimension A** ***Rationale of initiative***	**i. Improve employability**
	ii. Improve quality of life
	iii. Improve *DL* overall and improve the users' use of ICT
	iv. Condition-specific improvements for the target group
	v. Citizenship development and democratic participation

	vi. Bridge digital divide and social inclusion
	vii. Improve ICT infrastructure, ICT access etc
	viii. Other purpose
Dimension B ***Sustainability***	i. Still running after project period? - Continued or ongoing project - Transferred/expanded to new project - No - Not known
	ii. Wider involvement/Multi-stakeholders involved? - Public organisations - Educational institutions - Industry - NGOs/social partners/interest associations
	iii. Size of initiative? - Large - Medium - Small - Not known
	iv. Level of implementation? - Local - Regional - National - Not known
	v. Financing structure? - Public funds - Private funds - Reuse of used of equipment - Volunteer work - User payment (at this point the only information available)
	vi. Evaluation taking place? - Systematic and integrated in wider assessment - Irregular - No - Not known
Dimension C ***Motivational measures***	i. Achieving results (new skills, new social networks, new tangible outcomes/content)
	ii. Award of diplomas or certificates
	iii. Remuneration
	iv. Integration with workplace/educational practice (note that at present no real information on user motivation exists, only information about the potentially motivational elements of initiatives)
Dimension D	i. PCs
	ii. PDAs/notebooks

Platforms	iii. Mobile phones
	iv. PIAPs
	v. Open source tools
	vi. Learning platform
	vii. Network/infrastructure
Dimension E ***Content***	i. Standard PC courses (ECDL, MSoffice, etc.)
	ii. Courses tailored to user needs
	iii. Courses aimed at producing new content (websites, blogs, etc.)
	iv. Online courses (e-learning)
	v. Community and innovation driven content
Dimension F ***Accessibility***	i. To what extent is accessibility part of initiative? - Exclusively - Significantly - Partly - Not at all - Not known
Dimension G ***Usability***	i. To what extent is usability part of initiative? - Exclusively - Significantly - Partly - Not at all - Not known
	ii. Mode of delivery - Formal - Informal - Not known
LEVEL 2 ***Target groups***	i. Population and disadvantaged groups at large
	ii. Educational system v1 Students-pupils v2 Teachers and administrative staff
	iii. Work related v1 Training at work v2 Improvement of work skills outside of work place
	iv. Poor education and training (low educational attainment)
	v. Unemployed
	vi. Disabled
	vii. Health and long term care disadvantages
	viii. Elderly (55+)
	ix. Young people at risk (non-school activities)
	x. Women
	xi. Rural development, incl. geographically deprived groups
	xii. Urban development activities
	xiii. Ethnic, cultural, and language minorities (including

	immigrants)
	xiv. Criminal or other illegal behaviour (ex-convicts, substance abusers, and others)
	xiv. Other (very) marginalised groups – homeless, poor housing, high mobility
LEVEL 3 ***Country context***	i. i2010 aggregate indicator
	ii. ICT policy programmes and intentions - Policies part of wider reform programme and inclusion intensions - Implementation at regional and local level
	iii. DL policies - Drivers of DL policies (higher education level, improved economic efficiency, citizenship and participation) - Part of wider ICT reform policies - Implementation at regional and local level
	iv. Membership status - New Member State, Old Member State, EEA, Outside of Europe

2 LEVEL 1 Results – Analysis of key DL dimensions

Using the above analytical framework and the methodology described in section 1.2., the following results have been obtained based on the analysis of 464 initiatives from 32 countries. We have analysed key dimensions in understanding DL trends and drivers and what could be derived as conclusions in terms of gaps in DL initiatives and similarities and divergences between policies and initiatives.

2.1 Dimension A – Rationale of initiatives

In this section we analyse the various rationales behind the DL initiatives implemented by public authorities and organisations. For the purpose of comparison, the rationales have been divided into seven different themes of which the intention to "improve DL overall and user's use of ICT" is the most common (69% of all initiatives) followed by "bridging the digital divide and achieving social inclusion" (37%). Almost one in four initiatives is aimed at "improving the ICT infrastructure" in terms of providing broadband Internet access and/or facilitating the acquisition of PCs or laptops among target audiences that otherwise might not have been able to afford them (23%); 21% of initiatives are built on the rationale to "improve employability"; while 12% are based on the rationale to "improve quality of life", i.e., teaching mentally disabled people how make their own homepages. 13% involve the rationale to make "condition-specific improvements". In addition, 5 and 7% respectively have either some "other rationale" or aim at "citizenship development". It should be clear from the above that several initiatives have more than one rationale (improving DL and improving employability, bridging the digital divide and improving ICT infrastructure, improving DL, securing social inclusion and improving quality of life, etc.) and that some rationales partly overlap each other showing different approaches to the same basic problem (i.e., why do we want to improve DL?). Such differences in rationale appear to reflect different policy domains. However, to some extent the overlap and multiplicity in rationales may be a consequence of the specific target groups addressed as well as shown in the table below.

Table 1: Target groups vs. Rationale

	i. Improve employ-ability	*ii. Improve quality of life*	*iii. Improve DL overall*	*iv. Condition -specific improve-ments*	*v. Citizen-ship develop-ment*	*vi. Bridge digital divide/ social inclusion*	*vii. Improve ICT infra-structure*	*(N)*
i. Population/disadvantaged groups at large	24%	8%	80%	6%	10%	34%	32%	(142)
ii. Educational system	3%	1%	76%	27%	3%	18%	31%	(90)
iii. Work related	38%	8%	83%	25%	4%	38%	17%	(24)
iv. Poor education and training	55%	15%	73%	15%	9%	45%	33%	(33)
v. Unemployed	70%	11%	79%	9%	2%	44%	14%	(57)
vi. Disabled	22%	32%	60%	24%	4%	53%	13%	(95)
vii. Health	0%	17%	17%	33%	17%	33%	17%	(6)
viii. Elderly	15%	12%	76%	6%	9%	46%	13%	(82)
ix. Young people at risk	44%	19%	75%	6%	14%	58%	25%	(36)
x. Women	37%	11%	83%	7%	11%	48%	11%	(46)
xi. Rural development	31%	8%	78%	11%	8%	56%	64%	(36)
xii. Urban development	29%	7%	64%	14%	7%	64%	57%	(14)
xiii. Ethnic, cultural and language minorities	36%	11%	78%	9%	7%	49%	22%	(45)
xiv. Criminal/other illegal behaviour	55%	18%	73%	0%	0%	55%	0%	(11)
xv. Other groups	33%	33%	100%	33%	0%	67%	67%	(3)
All initiatives	**21%**	**12%**	**69%**	**13%**	**7%**	**37%**	**23%**	**(464)**

2.1.1 Strategic focus of initiatives

The majority of initiatives, especially those initiatives led by public organisations, is generally rooted in centralised policies at the national or regional level (somewhat dependent on country size) and is seen as strategically linked to government objectives. In particular, many initiatives and the rationales behind them can be traced back to either the economic or the social ramifications of a developing information society and government's priorities in response to these changing circumstances.

Improved economic performance

Thus, one recurring government concern has been how to continually improve the economic performance of the country, a region or a locality within a knowledge-based economy and this objective constitutes a major overarching motivation for upgrading the ICT skills of not only IT technicians and practitioners, but also of the population at large. Especially large-scale national or regional initiatives addressing the needs of many citizens are linked to core national and regional strategies motivated by the need to improve economic performance (for European countries a significant share of initiatives are linked to common European policies as well). Some of these initiatives have involved the formal certification of acquired skills, but this is not necessarily a universal feature, the main characteristic rather being almost exclusive focus on relatively standard course material in computer and Internet use. However, there has been a tendency to see such a link in the New Member States between this ambition and the rollout of the ECDL programme over the past 5-6 years in countries such as the Czech Republic, Estonia, and Slovakia. Moreover, there has been a slight tendency in recent years to see more e-learning initiatives targeting large proportions of the population.

Improving DL overall, bridging the digital divide and achieving social inclusion

Not only large-scale national initiatives aim to enhance the ICT capabilities among ordinary citizens, however. As already mentioned at the beginning of this section, the rationale to improve DL overall and users' use of ICT is the most widespread rationale of all and is prevalent among most of the initiatives addressing every identified target group and across size and level of implementation. The pervasiveness of this rationale testifies to the explicit goal of the present study to outline the range and quality of DL initiatives all over Europe. In that light it is worth observing that in no group is the share of initiatives with the rationale to improve DL overall and users' use of ICT roughly below three quarters of all initiatives except for the disabled (60%) and urban development activities (64%).

Yet the pervasiveness of the rationale also makes it almost meaningless to describe it in further detail beyond noting a slight tendency to focus on standard course material also when considered as a whole group. Of much more interest then are the other rationales with which the rationale is often combined. Principal among these rationales is the ambition to bridge the digital divide and achieve social inclusion. Like the overarching government concern with how to improve economic performance, how to ensure that all population groups maintain an equal part in society despite increasing requisite demands, constitutes a major government objective resonating through a significant part of the DL initiatives collected. More than half or nearly half of the initiatives addressing people with a poor education and training background, the unemployed, the disabled, the elderly, young people at risk, women, rural and urban development areas, and ethnic minorities, or trying to help individuals in criminal or otherwise illegal environments are thus at least partly based on this rationale whereas initiatives addressing the educational system generally appear to be less so (18%).

Bridging the digital divide has traditionally been associated with the large-scale rollout of Internet connections and subsidised provision of computer equipment, and this relationship is still apparent in rural and urban development areas where high shares of initiatives are matched by high shares of initiatives based on the rationale to improve ICT infrastructure. Also, the coupling between social inclusion aspects and the rationale to improve quality of life is evidenced by comparatively high shares of initiatives with either rationale addressing the disabled and young people at risk (or trying to help individuals in criminal or otherwise illegal

environments), and it is primarily these partial overlaps that explain a slightly larger share of initiatives concerned with infrastructure on the one hand (32% compared to 22% overall) and a tendency to be more reliant on collaboration between public organisations and NGOs on the other hand (34% compared to 26% overall).

Improving ICT infrastructure

Besides in rural and urban development areas where approximately three in five initiatives in some way are propelled by the intention to improve ICT infrastructure (64% and 57% respectively compared to 23% overall), relatively high shares of initiatives with this rationale are found among initiatives addressing people with a poor education and training background as well as the educational system and the population at large. Four in five of these initiatives have as either their exclusive or as a significant aim to increase accessibility by providing Internet connections in remote areas, offering refunds on purchases of computer equipment, or establishing computer class rooms at schools and given the substantial investments involved these initiatives are disproportionately large-scale (47%), publicly funded (43%), and nationally implemented (65%). Moreover, a rather large share of these initiatives are systematically evaluated (30% compared to 18% overall), perhaps because of their size and the investments involved or perhaps because of the relative ease with which the number of users can be assessed.

Interestingly, a substantial fraction of initiatives with this rationale relies on the establishment of Public Internet Access Points (PIAPs) to provide access to computers and the Internet, building independent kiosks and community training centres or fitting out computer rooms and work stations at existing public meeting places (a few initiatives rely on mobile computer rooms) often in conjunction with the provision of some basic computer course.
Both initiatives relying on PIAPs and initiatives simply with the rationale to improve ICT infrastructure are more widespread in the European countries with lower i2010 aggregate indicator scores[2].

Improving employability

A still significant, but smaller share of initiatives than those launched with rationales of broader social inclusion and improvement of DL overall, specifically aims to improve employability. Predictably, 40% of all initiatives with this rationale address the unemployed (compared to 12% in total), and conversely 70% of all initiatives aimed at the unemployed are based entirely or partly on this rationale (compared to 21% in total). Additionally, high shares of initiatives with the rationale to improve employability are found among initiatives addressing people with a poor education and training background (55%) and young people at risk (44%) as well as among initiatives trying to help individuals in criminal or otherwise illegal environments (55%). The lowest shares, in contrast, are found among initiatives addressing the disabled and the elderly (22% and 15% respectively) and the educational system (3%). This disparity seems to hint at the very narrow focus that these initiatives have on the immediate needs of people directly on the verge of the job market as distinguished from ubiquitous measures intended to increase the skills levels of the population in general (e.g., ECDL certifications and similar diplomas might be employed both as instant proof of qualification *and* as an added life skill in the human toolbox with various potential uses).

[2] Measure provided by the Commission based on up to 24 variables depending on country availability covering infrastructure, Internet uses, e-Government, and basic computer skills, see further section 4.

Regarding content, these initiatives tend to use standard computer courses extensively (ECDL or not; certification levels are not unusual) and show little apparent interest in accessibility and usability (in this the initiatives are quite similar to initiatives aimed at improving DL overall). Furthermore, they are geographically slightly more common in the New Member States with low i2010 aggregate indicator scores, but also appear to be relatively prevalent in the selection of initiatives from the USA and Canada.

Condition-specific improvements and improving quality of life

Smaller yet, but roughly equal shares of initiatives aim to make condition-specific improvements and to improve the quality of life and common for both rationales is a relatively strong concentration among initiatives addressing the disabled. Thus, more than half of all initiatives based on the rationale to improve the quality of life address the disabled (56%) while initiatives with the ambition to make condition-specific improvement are nearly equally split between initiatives addressing the disabled and initiatives addressing the educational system (roughly 40% each). Viewed as percentages of initiatives within each group, shares with these rationales are also higher than normal although there now appears to be an additional overrepresentation among initiatives addressing workers on the hand (25% of these initiatives involve condition-specific improvements compared to 13% overall) and young people at risk on the other hand (19% of these initiatives aim to improve quality of life compared to 12% overall).

Not surprisingly, initiatives based on either rationale have a strong focus on usability – indeed more than half of the initiatives in each group are significantly or exclusively concerned with this issue – and both groups of initiatives feature the largest shares of courses tailored to user needs accounting for half of the initiatives aimed at quality of life (52%) and two in three of all initiatives aimed at condition-specific improvements (67%). Moreover, it is characteristic of both groups predominantly to have been implemented nationally (although not necessarily being large initiatives and less so among quality of life initiatives). Nevertheless, notable differences exist between the two groups regarding stakeholders where initiatives based on the rationale to make condition-specific improvements involve the largest share of public-private relationships of all rationales (15%), while initiatives based on the rationale to improve the quality of life involve the largest share of NGO driven initiatives (mainly organisations for the disabled) of all initiatives (34%).

Increasing citizenship development and democratic participation

Finally, a minor fraction of initiatives have been developed with the ambition to increase citizenship development and democratic participation. These initiatives – most prevalent among young people at risk and women (14% and 11% respectively compared to 7% overall) – tend to view DL as only one issue among many to be addressed and often as a means to an end rather than an end in itself. About a third of these initiatives are small-scale, which is the largest share of any rationale (36% compared to 23% overall), and they often involve a partial or significant concern with usability and/or accessibility. In addition, about a third of the initiatives has an informal mode of delivery (36% compared to 22%) and about a quarter of the initiatives is multi stakeholder among different public, private and NGO type actors (24% compared 15% overall), both highs among rationales. More than any other type of initiatives, these initiatives tend to feature community and innovation driven content as well (36% compared to 13%).

2.2 Dimension B – Sustainability of the initiatives

Sustainability can be measured at many levels. We have analysed the initiatives along the following dimensions, which are central to assessing whether the initiatives are sustainable or not:

- Whether the initiatives have been continued, transferred or expanded or not
- The composition of the stakeholders involved
- The size of the initiatives
- The level of implementation
- Whether the initiatives require payment or not by the user, and
- Whether the initiative has evaluation as part of the project.

In terms of whether an initiative is ongoing or continue after the project period, almost 40% have been identified as still running, transferred, or expanded beyond the initial timeframe. Unfortunately, for a large percentage (35%) it has been impossible to ascertain whether the projects have or are likely to continue beyond the initial timeframe. Many of these initiatives are characterised by having started recently and still being in the initial timeframe. For a smaller group of these initiatives it has not been possible to ascertain whether they indeed were continued or not beyond the initial timeframe.

In terms of involving several stakeholders, which is one of the ways to ensure sustainability, more than half of the initiatives have been delivered by three or more implementers. However, one third of initiatives only has public institutions in the partnership.

Table 2: Stakeholders vs. Status of initiative

	Continued or ongoing project	*Transferred/ expanded to new project*	*Not ongoing*	*Not known*	*(N)*
i. Public	30%	5%	30%	36%	(151)
ii. Public-NGO	42%	5%	21%	31%	(121)
iii. Public-NGO-Private	49%	4%	16%	30%	(69)
iv. Public-Private	49%	3%	14%	37%	(35)
v. NGO	42%	5%	14%	40%	(43)
vi. NGO-Private	48%	4%	17%	30%	(23)
vii. Private	63%	0%	25%	13%	(8)
All initiatives	***39%***	***4%***	***22%***	***35%***	***(464)***

Strong continuity among more than 40% of projects and initiatives
More than 40% of initiatives have been found to be ongoing, continued after the initial funding, or to have transferred key elements to other projects or initiatives. In fact, there are some examples of initiatives that have been transferred from one country to another and even to countries outside Europe (e.g. from the Czech Republic to Uganda in Africa). There are, on the other hand, also examples of projects and programmes that run for several years and are then considered to have outlived their purpose. It is certain that 22% of initiatives have not been continued.

Wider stakeholder involvement makes a difference
It is evident from the analysis that the proportion of initiatives that are continued and ongoing is larger in projects that involve private actors than in projects that do not involve private actors. A likely explanation is that private ICT companies (Microsoft, Hewlett Packard, telecommunication providers) and other private contributors often provide financial support or infrastructure to such initiatives as well as a key focus on achieving objectives. Another factor, although less frequent, is that some initiatives may convert from being partly funded by public resources to running on a commercial basis.

Three or more stakeholders in DL initiatives are quite normal. In fact, many of the large national DL programmes can involve up to several hundreds of stakeholders. The reason for this is that although these programmes may be centrally organised they are also locally managed and operated. Another reason for involving many stakeholders is the close link required to end-user communities and NGOs, and other representative organisations therefore play a significant role in many initiatives, especially where the target audiences have special needs (e.g. the disabled, the elderly, and rural and urban development).

Social partners, NGOs, industry associations enjoy wide involvement
There is increasing focus on looking at whether DL initiatives benefit from providers and contributors other than the traditional public service providers. These alternative providers include social partners, associations, NGOs, and voluntary and interest organisations. This is coupled with the growing interest in using intermediaries for delivering information services and training to marginalised groups that may feel more comfortable with associations and networks that they know and trust[3]. It is very encouraging that 55% of all initiatives actually involve such stakeholders and approximately 45% of initiatives consist of partnerships of social partners, NGOs, or associations together with public organisations, educational institutions, and/or private companies. Such partners' involvement benefits the initiatives because of their approaches to engaging with target user groups that are different from those of the typical public service providers.

New partnerships addressing needs of disadvantaged groups
In cases such as DL initiatives for the elderly, ethnic groups and the disabled large proportions (30-40%) of these initiatives involve strong interest groups and associations in partnership with public institutions. These strong associations and lobby groups exist to promote the interest of the groups in question, and they are able to design and implement DL projects that are closer to the needs of the elderly or ethnic groups, more so than maybe public agencies on their own. There is also a growing interest in addressing the value of mixed

[3] So far, intermediaries have been grouped with the organisations they represent, typically non-profits and interest organisations.

partnerships, and public private partnerships. The statistical data collected so far also show that several of the initiatives are being implemented by such partnerships.

Most DL initiatives are free of charge for users or require only symbolic fees

Almost 60% of the analysed DL initiatives are free to the users (59%). There are, however, several examples of projects that have been successfully completed where the users have been asked to pay a small amount (often reduced through subsidies) to take part. Projects where education and training have required payment have typically involved the purchase of equipment (e.g., parents purchasing notebooks for a learning project at school) in order to take part or a private operator who has required a contribution towards costs. In other projects not involving education and training reduced fees commonly go towards acquiring diplomas (ECDL, for instance) or simply to pay for free Internet access time. Only 4% of the initiatives collected require full user payment.

So far, it has not been possible to conclude whether user payment affects the quality of the outcome of projects or the level of participation in projects. This is an area that will be analysed in more depth in the next phase. Nevertheless, it is safe to assume that some of the large-scale national programmes would not have achieved such high levels of participation if the users had had to pay an enrolment fee (on the other hand, some view a symbolic entrance fee as pivotal in ensuring the motivation of participants). Moreover, the present information level does not allow a satisfactory comparison of the sustainability of initiatives employing different funding schemes to cover operational costs. This is also an area to analyse in more depth in the next phase.

Bottom-up vs. top-down strategies

Most of the identified initiatives provide little information in terms of whether they are characterised by a bottom-up or a top-down strategy. However, generally it is possible to say that many large-scale national programmes have been characterised by a top-down strategy. In other words, one or two government organisations have made the decision to roll out ICT skills training, and schools, libraries, or employment agencies are obliged to implement the strategy.

Table 3: Size vs. Status of initiative

	Continued or ongoing project	*Transferred/ expanded to new project*	*Not ongoing*	*Not known*	*(N)*
Large	39%	9%	32%	20%	(102)
Medium	37%	7%	25%	33%	(67)
Small	42%	5%	26%	29%	(108)
Not known	39%	0%	12%	42%	(187)
All initiatives	***39%***	***4%***	***22%***	***35%***	***(464)***

There is an even spread of initiatives across small-, medium- and large-sized initiatives. Nevertheless, size does not seem to have a clear impact on whether the projects are continued or not

The size of the projects has been assessed in terms of the number of people the initiative addresses or the size of the budget allocated to the initiative. For some initiatives we have received the number of users, for others the size of the budget. For a large proportion of initiatives, however, it has proved impossible to retrieve usable estimates due to lack of information (particularly about old initiatives and presumably about minor initiatives too). Especially initiatives aimed at the disabled and/or the population at large have been difficult to estimate in terms of size. Consequently, it is difficult to draw many conclusions on the implications of size of initiatives.

The majority of the large initiatives are aimed at the population at large or the educational sector. Jointly, 72% of the 102 large initiatives have these two target groups as their target audience. Of the small projects, it is evident that especially initiatives aimed at the elderly and the disabled are found here. Not surprisingly, a large share of initiatives with online platforms (40%) are large in size, whereas 32% of initiatives aimed at producing new content (e.g. websites, audio and video files) are small in size.

Furthermore, analysis has shown that almost half of the 105 initiatives aimed at improving infrastructure are estimated to be large projects. Projects aimed at addressing citizenship and democratic participation have been found to be either large or small depending on whether it is basically a website service aimed at certain groups to allow them to interact (only indirectly teaching DL) or indeed a training exercise where participants are supported in learning how to participate in the democratic process online.

Size does not seem to have a clear impact on whether the projects are continued or not. Although a few more large initiatives have been identified as being continued or transferred compared to medium and small initiatives, the difference is not that significant (indeed the difference may simply reflect the smaller percentage of initiatives with unknown status as the largest share of initiatives not ongoing is also among the larger initiatives).

Table 4: Level of implementation vs. Status of initiative

	Continued or ongoing project	*Transferred/ expanded to new project*	*Not ongoing*	*Not known*	*(N)*
National	44%	5%	20%	32%	(268)
Regional	36%	5%	26%	35%	(88)
Local	37%	3%	23%	36%	(86)
Not known	5%	0%	18%	14%	(22)
All initiatives	**39%**	**4%**	**22%**	**35%**	**(464)**

The majority of DL initiatives are national initiatives

58% of all initiatives have been identified as national programmes of which the majority is part of a national policy and strategy. However, even national programmes are likely to have a regional and/or local dimension, as most DL initiatives require local support and integration. Nevertheless, there are also examples of purely regional and local initiatives that often focus on addressing specific problems within the region or local area. These problems could be high unemployment rates among women or young people or specific shortcomings among certain ethnic groups. Such initiatives seek to address these problems by providing DL training coupled with other training activities to improve the employability of these groups.

Regional and local initiatives both represent 19% of the total number of initiatives. National initiatives are slightly more likely to be continued beyond the original timeframe in that 44% of national initiatives have continued compared to 36% of regional initiatives and 37% of local initiatives. Of all continued and transferred or expanded initiatives (202 initiatives in total) 64%-65% are national initiatives. As mentioned earlier, most national projects are more likely to be large projects and vice versa.

Table 5: Evaluation vs. Status of initiative

	Continued or ongoing project	*Transferred/ expanded to new project*	*Not ongoing*	*Not know*	*(N)*
Systematic and integrated in wider assessment	39%	6%	32%	26%	(82)
Irregular	37%	7%	30%	25%	(67)
No evaluation	43%	3%	23%	30%	(184)
Not known	35%	3%	8%	44%	(131)
All initiatives	**39%**	**4%**	**22%**	**35%**	**(464)**

Only 18% of initiatives have evaluation as an integral part of the initiative and 14% as a irregular occurrence (for 28% of the initiatives it has not been possible to determine whether the project has or will be evaluated)

Initiatives that are more likely to have been evaluated include those aimed at urban and rural development target audiences, ethnic groups, and people with poor education and training backgrounds. More than 40% of initiatives aimed at workers, the disabled, the unemployed, women and young people as well as 64% of initiatives trying to help individuals in criminal or otherwise illegal environments have not been evaluated in any formal way.

Half of the initiatives aimed at improving the quality of life have not been evaluated whereas almost half of the initiatives aimed at infrastructure improvements have been evaluated – either irregularly or as an integral part of the project. Presumably the high share of evaluated initiatives in the latter instance is partly a consequence of the nature of the evaluations, in large part assessing basic connectivity, number of refunds, and number of users in a given time span, etc.

Moreover, a significant proportion of those DL projects that lead to certifications can document results in the form of number of participants and proportion of participants that have achieved a diploma/certificate (e.g. ECDL).

It is evident from the study that only very few DL projects provide public evaluation reports, interim results, or results at the end of the projects. Those initiatives that do provide evaluations are typically the large-scale national initiatives where the investment is substantial and where the state or the government has planned and scheduled such evaluations. Thus, while 32% of the large initiatives and 31% of the medium sized initiatives have been found to have been evaluated systematically, it is only 16% of the small initiatives. Even in terms of irregular evaluation activities the situation is similar. The large and medium sized initiatives are more likely to have involved some degree of evaluation activities. Looking at geographical divergences between countries, it would appear that the Old Member States at the top of the i2010 aggregate indicator ratio are particularly bad at carrying out evaluations while the USA and Canada have a much stronger tradition for evaluating projects than any other country group. These indications, however, may to some extent reflect the fact that there is much less uncertainty about the evaluation status of initiatives in the Old Member States at the top of the ratio (among other things many more initiatives have reached the end of at least their first operational period), and that the fewer initiatives selected from the USA and Canada have been included on the premise of having been evaluated. Very few projects actually provide public results of user evaluations although this would be a valuable source of knowledge and an opportunity to improve the initiatives continuously.

2.3 Dimension C – Measures for motivating target group

At present no real information on user motivation exists, only information about the potentially motivational elements of initiatives. Thus, in agreement with the Commission this dimension will not be analysed before the results of the next phase are available.

2.4 Dimension D – ICT platforms

Table 7: Platform vs. Content

	Standard computer courses (ECDL, MSoffice, etc.)	*Courses tailored to user needs*	*Courses aimed at producing new content (websites, blogs, etc.)*	*Online courses (e-learning)*	*Community and innovation driven content*	*(N)*
i. PCs	57%	33%	15%	17%	12%	(423)
ii. PDAs/notebooks	50%	39%	17%	28%	6%	(18)
iii. Mobile phones	33%	33%	0%	33%	0%	(6)
iv. PIAPs	82%	16%	8%	13%	18%	(38)
v. Open source tools	45%	36%	27%	9%	27%	(11)
vi. Learning platform	28%	25%	19%	64%	6%	(36)
vii. Network/infrastructure	62%	23%	17%	13%	17%	(104)
All initiatives	**53%**	**32%**	**15%**	**17%**	**13%**	**(464)**

PCs with Internet access is by far the main platform for DL initiatives
It is clear that most of the initiatives utilise mainly PC with Internet access (91% of all initiatives) and are not very innovative in their choice of platform, disregarding the potential value of utilizing new digital methods and devices.

Clearly, the innovation level of this dimension is very low and something to be addressed in the next phase in the selection of good practice cases by asking the providers and implementers if no other channels were available or whether it has been a conscious choice not to make the DL offerings too complicated and maybe beyond the users' skills, and by asking the users if they would have liked to use more innovative ICT channels. It is also important to investigate to what extent the motivation and sustainability findings would have been stronger had the ICT platforms involved in the initiatives been more multi platform based.

Very few initiatives have been based on mobile, PDA or open source platforms
Although there is much talk of access to the information society through mobile devices and open source tools at no cost, this is not a trend that is reflected in the current and recent initiatives identified in this study. 4% of initiatives have been based on PDAs and notebooks, 1% of initiatives on mobile telephones and just 2% on open source tools. Then again,

developments may have occurred regarding other digital media beyond the scope of this study (in areas such as cameras, digital television, or MP3).

PIAPs for rural and urban development areas
40% of the 38 PIAP initiatives identified are located in rural and urban development areas. Generally, these PIAPs tend to target the population at large, but to some degree they also address the needs of young and elderly people. Obviously, the PIAP initiatives are partly, significantly or exclusively about providing access to the information society for people who otherwise would not have access, although in many instances the PIAPs provide teaching opportunities as well.

Learning platforms for large audiences primarily
From the study it is evident that up till now learning platform initiatives have concentrated on target groups such as the population at large (31% of learning platform initiatives) and educational target audiences (47%) where there is an opportunity to reach a large audience through one online channel. This is further strengthened by the fact that many of these initiatives are combined with the provision of online learning resources. In other words, 64% of learning platform initiatives have also made online learning content available.

Network and infrastructure initiatives for the rural and urban target groups
Of the 104 initiatives aimed at improving network and infrastructure, 79% have also been about achieving better accessibility for people. Apart from the establishment of PIAPs and PCs, a large proportion of projects aimed at communities in deprived rural and urban areas have also benefited from the introduction of networks and infrastructure. In fact, this combination can be found in several initiatives.

2.5 Dimension E – Content

Table 8: Content vs. Usability focus

	Exclusively	Significantly	Partly	Not at all	Not known	(N)
i. Standard computer courses (ECDL, MSoffice, etc.)	1%	16%	27%	54%	2%	(246)
ii. Courses tailored to user needs	9%	49%	29%	13%	0%	(150)
iii. Courses aimed at producing new content (websites, blogs, etc.)	0%	29%	37%	34%	0%	(68)
iv. Online courses (e-learning)	0%	30%	26%	43%	1%	(77)
v. Community and innovation driven content	2%	24%	37%	31%	7%	(59)
All initiatives	**3%**	**25%**	**27%**	**34%**	**10%**	**(464)**

There is more innovation across different content types than across platforms and devices
Not surprisingly, 53% of all initiatives have focused on standardised content, whereas 32% have been based on content tailored to the needs of the users. It is also not surprising to see a very close link between the focus on usability and the development of courses tailored to the user needs of learners. Generally speaking, standard computer courses are much more inherent in large-scale national initiatives, particularly in those initiatives launched just around 2000 or in the late nineties.

If the partnership in the initiatives is made up of NGOs, associations and interest organisations alone or combined with private and public actors it is more likely to include content tailored to the needs of users. 70% of initiatives aimed at producing new content in the form of websites, audio files etc. are run by public organisations or public organisations collaborating with NGOs, associations and interest organisations.

Interestingly, as many as 15% of projects have included learning processes aimed at producing new content in the form of websites, etc. Moreover, 17% of initiatives have included the provision of online learning resources of which 38% have been aimed at the population at large to reach as large an audience as possible. A fair share (13%) of initiatives have been about creating community and innovation driven content and more than half of these have addressed the needs of rural and urban development areas.

Community and innovation driven content is more likely among initiatives targeted at deprived groups in rural (25% of initiatives aimed at deprived groups in rural areas) and urban development areas (29%).

Note that the breakdown of content categories awaits the more detailed information of the next phase.

2.6 Dimension F – Accessibility

Table 9: Rationale vs. Accessibility focus

	Exclusively	Significantly	Partly	Not at all	Not known	(N)
i. Improve employability	4%	13%	16%	65%	2%	(99)
ii. Improve quality of life	9%	15%	31%	43%	2%	(54)
iii. Improve DL overall and improve user's use of ICT	7%	12%	20%	60%	0%	(322)
iv. Condition-specific improvements for the target group	5%	18%	15%	62%	0%	(61)
v. Citizenship development and democratic participation	3%	21%	15%	61%	0%	(33)
vi. Bridge digital divide and social inclusion	11%	16%	22%	51%	1%	(170)
vii. Improve ICT infrastructure	34%	39%	22%	5%	0%	(105)
viii. Other rationale	0%	19%	5%	76%	0%	(21)
All initiatives	**9%**	**13%**	**19%**	**56%**	**4%**	**(464)**

Accessibility is linked to network infrastructure, and primarily aimed at the disabled and deprived groups in rural and urban areas.
It is not surprising that the data indicates that 73% of initiatives aimed at improving network and infrastructure are also exclusively or significantly about accessibility. Furthermore, there is evidence that initiatives that are aimed at rural and urban development areas are either partly, significantly, or exclusively about accessibility.

By and large, three types of accessibility initiatives have been identified

1. Large-scale rollout targeting the population at large or rural areas
2. Special equipment for disabled people
3. Web standards to allow access for the disabled.

The latter initiatives often seek to implement and promote the recommendations of the Authoring Tool Accessibility Guidelines Working Group (AUWG) under the W3C to private and public homepage administrators and designers to improve access for disadvantaged and disabled groups.

Accessibility and usability is not easily combined in DL initiatives

As it is generally recognised that focus on usability as well as accessibility is extremely important for the success of DL initiatives, it is somewhat surprising that very few projects (22%) focus – even if it is only partly or significantly – on both accessibility and usability (these initiatives most commonly address the disabled). One explanation is of course that many of the initiatives analysed try not to mix up the provision of access to technologies with the teaching of DL skills. Instead they are perceived as two separate initiatives where one, access, is followed by the other, training. Nevertheless, if the aim is to address in a better way the needs of minority groups with special needs not just in terms of content, learning style and approach, but also in terms of hardware and software design and layout, then perhaps more future DL initiatives ought to address both usability and accessibility in a profound way.

2.7 Dimension G – Usability

Table 10: Rationale vs. Usability focus

	Exclusively	Significantly	Partly	Not at all	Not known	(N)
i. Improve employability	1%	24%	28%	43%	3%	(99)
ii. Improve quality of life	15%	41%	19%	22%	4%	(54)
iii. Improve DL overall and improve user's use of ICT	2%	24%	28%	46%	1%	(322)
iv. Condition-specific improvements for the target group	7%	52%	33%	8%	0%	(61)
v. Citizenship development and democratic participation	0%	21%	52%	24%	3%	(33)
vi. Bridge digital divide and social inclusion	3%	28%	27%	39%	2%	(170)
vii. Improve ICT infrastructure	0%	17%	26%	55%	2%	(105)
viii. Other rationale	5%	24%	29%	43%	0%	(21)
All initiatives	**3%**	**25%**	**27%**	**34%**	**10%**	**(464)**

Usability

Usability has been addressed partly, significantly, or exclusively by 55% of the initiatives. Usability is understood as user friendliness, user driven, involving training and coaching, and services that are easy to use and navigate. In this regard, there is a strong relationship between

usability and tailored courses. Initiatives and services aimed at certain groups such as the disabled, e.g., the service for sight-impaired in Latvia, clearly address the perceived usability needs of these groups. However, the question whether an initiative is very user friendly can be better clarified in the next phase when data on interviews with users will be analysed.

Informal mode of delivery exists in 22% of DL initiatives
Informal learning in a DL context can be characterised as:

- Not taking place in specific educational and training establishments standing out from normal life and professional practice
- Not being planned pedagogically, intentionally, systematically, according to subjects, test and qualification-oriented, but rather unconsciously, incidental, holistically problem-related, and related to situation specific context.

With the emergence and growth of Web 2.0 technologies and services, there is an expectation that informal learning will and could play a major role in terms of preparing people for critical social construction and interaction and improved DL skills. However, it is highly debatable whether these developments will be within the reach of the main population groups of the present study, i.e. the digitally illiterate.

Tentatively, analysis of the description of initiatives does suggest that informal learning is only an actively encouraged mode in 22% of the DL initiatives identified (the rest being either formal or indeterminate). However, it should be noted that the lower limit on the size of initiatives has potentially created a selection bias against informal initiatives. Moreover, this does not mean that informal learning has not taken place in initiatives that have not been identified as actively encouraging informal learning when gaining information literacy skills. What is implied is that informal learning is not part of the strategy and approaches of these initiatives.

Of all initiatives providing opportunities for informal learning, 24% have the population at large as it target audience, 21% has pupils/students and teachers at educational institutions as their target group, and 18% have elderly people as their target audience.

To investigate the extent to which DL initiatives across Europe equip the users with strategic and instrumental skills by providing opportunities for informal learning, we will need to carry out in-depth analysis of a subset of those initiatives that provide opportunities for informal learning.

3 LEVEL 2 Results – Analysis of key target groups

3.1 Population and disadvantaged groups at large

Characteristics of initiatives aimed at the general population and disadvantaged groups at large:

- 142 initiatives have been identified as addressing the population or disadvantaged groups at large.
- The key rationales in these initiatives are in descending order: improving DL overall and the users' use of ICT (80%) often in conjunction with a desire to bridge the digital divide (34%) or improve ICT infrastructure (32%) or with the purpose to improve employability (24%).
- Initiatives tend to be large-scale (27%); however, roughly two in five of the initiatives (39%) are of unknown size.
- Nearly two in three initiatives are national (63%).
- Generally, initiatives are not concerned with accessibility at all (56%).
- Nor are initiatives generally concerned with usability (56%).
- Many initiatives are implemented by public organisations alone (37%), but nearly half of the initiatives involve either NGOs (25%) or NGOs and private enterprises in concert (23%). Next after rural development initiatives, this proportion of multi stakeholders is the highest share of any target group.
- By and large, initiatives involve standard computer courses (69%), some of them as e-learning modules (20%).

3.2 Educational system

Characteristics of initiatives aimed at the educational system:

- 90 initiatives have been identified as addressing the educational system.
- The key rationales are improving DL overall and the users' use of ICT (76%) together with improving ICT infrastructure in the schools (31%). Many of these initiatives also seek to install condition-specific improvements to educational practices (27%).
- Most initiatives are large-scale (39%), but 30% are of unknown size.
- Approximately three in four initiatives are national (74%).
- Generally, initiatives are not concerned with accessibility at all (64%).
- Usability is an issue, however, as 29% are significantly concerned with usability and 28% are partly concerned therewith.
- Half of the initiatives are implemented by public organisations – governments and educational institutions – alone (50%). Smaller shares of NGO and private involvement together with public organisations exist as well.
- More than in other groups initiatives tend not to solely revolve around standard computer courses (37%), but rather to feature course material tailored to user needs (41%) or aimed at producing new content (22%). Almost a quarter of initiatives also involve e-learning modules (24%).

3.3 Workers

Characteristics of initiatives aimed at workers:

- 24 initiatives have been identified as addressing workers.
- The key rationales are improving DL overall and the users' use of ICT (83%) perhaps not surprisingly followed by improving employability (38%). Like with initiatives addressing the educational system, many of these initiatives also seek to install condition-specific improvements to the work process (25%).
- Roughly half of the initiatives are large-scale (50%). 21% are of unknown size.
- Initiatives are either national (71%) or regional (29%).
- Four in five initiatives are not concerned with accessibility at all (79%).
- In contrast, 25% of the initiatives are significantly concerned with usability and an additional 21% are partly so.
- Nearly half the initiatives are implemented by public organisations in collaboration with social partners and associations (46%). In addition, unions and industrial organisations run a significant share of initiatives by themselves (17%).
- Three in four initiatives basically involve standard computer course material (75%), but a substantial minority includes aspects developed to fit around the work process too. This consideration is probably also why a third of the initiatives, more than in any other group, offer e-learning modules (33%). Initiatives with courses aimed at producing new content as well as with community and innovation driven content are practically non-existent (8 and 4% respectively).

3.4 Poor education and training

Characteristics of initiatives aimed at people with a poor education and training background:

- 33 initiatives have been identified as addressing people with a poor education and training background.
- The key rationales of these initiatives are in descending order: improving DL overall and the users' use of ICT (73%), followed by improving employability (55%), bridging the digital divide (45%) and improving ICT infrastructure (33%).
- Most initiatives are large-scale (39%), but approximately one in four initiatives is of unknown size (27%).
- Nearly two in three initiatives are national (64%) and most of the remainder are regional (27%).
- Initiatives are generally not concerned with accessibility (48%) or only partly so (21%).
- Similarly, initiatives are generally not concerned with usability (52%) or only partly so (18%).
- Initiatives involve either public organisations and social partners and associations (42%) or are run solely by public organisations (30%).
- Approximately half of the initiatives employ standard computer courses (55%), and a somewhat less than average share of initiatives offers courses tailored to user needs (27%), but neither share is really unusual.

3.5 Unemployed

Characteristics of initiatives aimed at unemployed people:

- 57 initiatives have been identified as addressing unemployed people.
- The key rationale is improving DL overall and the users' use of ICT (79%), but nearly as many initiatives not surprisingly are designed with the aim to improve employability (70%). 44% desire to bridge the digital divide and secure social inclusion.
- Unlike the previous initiatives, these initiatives appear to be medium- or small-scale (28% respectively), yet 28% are still of unknown size.
- Half the initiatives are national (51%). 28% are local, however.
- Generally, initiatives are not concerned with accessibility (68%).
- Nor are initiatives generally concerned with usability (54%).
- Similar to initiatives addressing people with poor education and training, initiatives in this group are chiefly implemented by public organisations in collaboration with social partners and associations (44%), but multi-stakeholder initiatives are also prominent (18%).
- Next to work related initiatives, these initiatives involve the highest share of standard computer courses at 74%, and like with work related initiatives, initiatives with community and innovation driven content are practically nonexistent (5%).

3.6 Disabled

Characteristics of initiatives aimed at disabled people:

- 95 initiatives have been identified as addressing disabled people.
- The key rationale is improving DL overall and the users' use of ICT (60%). Almost as many initiatives, though, are based on the rationale of social inclusion (53%) and a significant proportion intends to improve the quality of life (32%). Condition-specific improvements and improving employability are secondary purposes (24% and 22% respectively).
- More than half of the initiatives are of unknown size (53%), but the remainder tends to be small-scale initiatives (26%).
- 55% of the initiatives are national. 23% are regional and 17% are local.
- A significant share of these initiatives is partly concerned with accessibility (33%). In addition, 16% are significantly concerned with accessibility, but still 45% are not at all concerned with accessibility.
- Combined, almost three in five initiatives are significantly or exclusively concerned with usability as well (46 and 12% respectively). Only 18% are not concerned with usability at all.
- This group features the largest share of initiatives implemented by NGOs alone of all groups (22%). Another 33% also involve NGOs, but in collaboration with public organisations.
- Not surprisingly courses are predominantly tailored to user needs, a characteristic shared by three in five initiatives (61%). No other group except for the very small group of initiatives addressing health and long-term care disadvantages reach

similar levels. E-learning modules are not incorporated in these initiatives to any great extent (9%) and community and innovation driven content is as low as for workers and unemployed (6%).

3.7 Health and long term care disadvantages

Characteristics of initiatives aimed at people suffering from health and long-term care disadvantages:

- Six initiatives have been identified as addressing people suffering from health and long term care disadvantages.
- No particular rationale appears to be employed more frequently than others in these initiatives.
- Although somewhat uncertain based on the small number of initiatives, initiatives in this group appear to be predominantly small-scale, which characterises three of the six initiatives (50%). Two initiatives are of unknown size (33%).
- Initiatives appear to be mainly national (67%).
- Four out of the six initiatives are at least significantly concerned with accessibility (67%).
- Similarly, four out of the six initiatives are significantly concerned with usability (67%).
- Again, NGO involvement appears to be prominent, as four of the six initiatives have been implemented with the help of NGOs (67%).
- Four of the six initiatives are tailored to user needs (67%), and two initiatives aim to produce new content (33%).

3.8 The elderly

Characteristics of initiatives aimed at the elderly:

- 82 initiatives have been identified as addressing the elderly.
- The key rationales in these initiatives are, on the one hand, improving DL overall and the users' use of ICT (76%) and, on the other hand, ensuring social inclusion (46%).
- Initiatives appear to be small-scale (28%). However, a large proportion is of unknown size (38%).
- Just over half of the initiatives are national (54%) while the remainder is evenly split between local and regional initiatives (23 and 22% respectively).
- Generally, initiatives are not concerned with accessibility at all (62%).
- Usability is a greater issue as almost two in three initiatives are either partly or significantly concerned with usability (41 and 22% respectively).
- 35% of initiatives are implemented by NGOs in conjunction with public organisations, but interestingly, a significant share also involves a partnership between NGOs and private enterprises (15%).
- These initiatives largely involve standard computer courses (73%). Perhaps surprisingly, only 28% are adapted to user needs, but it is less surprising that e-learning does not feature very prominently (9%).

3.9 Young people at risk (non-school activities)

Characteristics of initiatives aimed at young people at risk:

- 36 initiatives have been identified as addressing young people at risk outside of school.
- The key rationales are improving DL overall and the users' use of ICT (75%), often coupled with bridging the digital divide and social inclusion (58%) and/or improving employability (44%).
- Initiatives appear to be small- or medium-scale (28 and 22% respectively). 31% are of unknown size.
- Most initiatives are local (44%), but nearly as many are national (36%).
- Initiatives are generally not concerned with accessibility (56%) or only partly so (22%).
- Usability is somewhat of an issue though, as roughly three in five initiatives are either partly or significantly concerned with usability (42 and 17% respectively).
- This group of initiatives is largely implemented by public organisations either with the help of NGOs (33%) or without outside help (25%).
- 58% of the initiatives involve standard computer course material and only about a quarter of the initiatives are tailored to user needs (25%). E-learning is not a prominent feature either (8%), but together with initiatives addressing the educational system, initiatives in this group have highest the share of initiatives aimed at producing new content (22%).

3.10 Women

Characteristics of initiatives aimed at women:

- 46 initiatives have been identified as addressing women.
- As with young people at risk, the key rationales are improving DL overall and the users' use of ICT (83%), often coupled with bridging the digital divide and social inclusion (48%) and/or improving employability (37%).
- Initiatives appear to be small-scale (33%), but just as many are of unknown size (35%).
- Most initiatives are national (46%), but significant shares are regional and local as well (30 and 24% respectively).
- Generally, initiatives are not concerned with accessibility at all (67%).
- Conversely, three in five initiatives are either partly or significantly concerned with usability (35 and 26% respectively).
- The predominant type of implementation is NGOs and public organisations in collaboration (41%).
- Approximately two in three initiatives involve standard computer courses (65%) while one third of the courses involve courses tailored to user needs (33%). Courses aimed at producing new content and uses of e-learning modules are among the lowest for any group (7 and 4% respectively).

3.11 Rural development, incl. geographically deprived groups

Characteristics of initiatives aimed at rural development:

- 36 initiatives have been identified as addressing rural development.
- These initiatives have three key rationales: improving DL overall and the users' use of ICT (78%), improving ICT infrastructure (64%), and bridging the digital divide (56%). Improving employability is also a prominent rationale (31%).
- Initiatives tend to be medium- or large-scale (31 and 39% respectively). Roughly one in five initiatives is of unknown size (22%).
- Three in five initiatives are national (61%). 22% are regional.
- More than a quarter of the initiatives are exclusively concerned with accessibility (28%) and an additional third is significantly so (33%). Only 19% are not concerned with accessibility at all.
- On the other hand, half of the initiatives are not concerned with usability at all (50%) while 22% are only partly so.
- Nearly two in three initiatives are implemented either as projects between public organisations and NGOs (33%) or as multi stakeholder projects involving both NGOs and private enterprises – mainly telecommunication companies – together with public organisations (31%).
- Standard computer courses account for nearly three in five initiatives in this group (58%), and the share of courses tailored to user needs is the lowest of any group (17%). Interestingly though, a quarter of the initiatives involve community and innovation driven content (25%), a share only surpassed among urban development initiatives.

3.12 Urban development activities

Characteristics of initiatives aimed at urban development:

- 14 initiatives have been identified as addressing urban development.
- Similar to the initiatives regarding rural development, these initiatives have three key rationales: improving DL overall and the users' use of ICT (64%), bridging the digital divide (64%), and improving ICT infrastructure (57%). As well, improving employability is again a prominent rationale (29%).
- Most initiatives are large-scale (36%), but significant proportions are medium- or small-scale (21% respectively). One in five initiatives is of unknown size (21%).
- Contrary to initiatives addressing rural development, most of these initiatives are local (43%). 36% are national.
- Most initiatives are partly concerned with accessibility (43%), but also a significant share is exclusively concerned with accessibility (21%). Only 21% is not concerned with accessibility at all.
- More than with rural development initiatives, usability appears to be an issue in this group as three in five initiatives are either partly or significantly concerned with usability (29% respectively).
- The largest category of implementers within this group is public organisations and NGO collaborations (29%), however, no single category is exceptional.

- Like with initiatives aimed at rural development, nearly three in five initiatives employ standard computer course material (57%), but a much larger share of initiatives in this group involves courses tailored to user needs (29%). 29% of these initiatives also contain community and innovation driven content, the largest share of any group. E-learning modules would appear to be nonexistent (0%, but only 14 initiatives belong to this group).

3.13 Ethnic, cultural and linguistic minorities including immigration

Characteristics of initiatives aimed at ethnic, cultural, and linguistic minorities:

- 45 initiatives have been identified as addressing ethnic, cultural, or linguistic minorities.
- The key rationales of these initiatives resemble the rationales of initiatives addressing women and young people at risk, namely improving DL overall and the users' use of ICT (78%), often coupled with bridging the digital divide and social inclusion (49%) and/or improving employability (36%). Improving ICT infrastructure represents a secondary rationale within this group (22%).
- Most of these initiatives are of unknown size (38%). The remainder appears to be either small-scale (27%) or large-scale (22%).
- Nearly half of the initiatives are national (47%), but significant proportions of local and regional initiatives exist as well (29 and 24% respectively).
- Generally, initiatives are not concerned with accessibility at all (69%).
- On the other hand, 27% of initiatives are significantly concerned with usability and an equal percentage is partly so (27%).
- Half of the initiatives are implemented by public organisations and NGOs in collaboration (49%). Another quarter of the initiatives are implemented by public organisations alone (24%).
- Content-wise, these initiatives again resemble initiatives aimed at young people at risk (there is some overlap between initiatives here too though) with 57% involving standard computer course material and little more than a quarter of initiatives tailored to user needs (29%). The share of initiatives aimed at producing new content is also relatively high (18%). Apparently, the only real difference is a significantly larger presence of e-learning modules among initiatives in this group (20%).

3.14 Criminal and other illegal behaviour

Characteristics of initiatives aimed at criminals or other people exhibiting illegal behaviour:

- 11 initiatives have been identified as addressing criminals or other people exhibiting illegal behaviour.
- Within this small group, key rationales appear to be equal to the purposes behind initiatives addressing unemployed people: 73% aim to improve DL overall and users' use of ICT, while 55% respectively aim to bridge the digital divide and secure social inclusion and improve employability.

- Nearly half of the initiatives are small-scale (45%). One quarter each is either medium-scale or of unknown size (27% respectively).
- Initiatives are either national (55%) or local (45%).
- Generally, initiatives are not concerned with accessibility at all (64%).
- But 45% of initiatives are partly concerned with usability (another 45% is not concerned with usability at all).
- Nearly half the initiatives are implemented solely by public organisations (45%), but this group also features the largest share of public-private initiatives (18%).
- Except for a less pronounced use of e-learning modules (18%), initiatives in this group share many similarities with initiatives addressing workers. Then again, except for a more pronounced use of aspects tailored to user needs (36%), the initiatives in this group share many similarities with initiatives for the unemployed. Thus, roughly three quarters of the initiatives involve standard computer courses (73%), while courses aimed at producing new content or initiatives with community and innovation driven content appear to be very few or nonexistent (9% and 0% respectively).

3.15 Other (very) marginalised groups – homeless, high mobility groups etc

Characteristics of initiatives aimed at (very) marginalised groups:

- Three initiatives have been identified as addressing other very marginalised groups such as homeless, poor housing or high mobility groups
- Although somewhat uncertain based on only three initiatives, the key rationales would appear to be improving DL overall and users' use of ICT, which all initiatives employ (100%), and securing social inclusion, which two of the initiatives employ (67%).
- There is no clear tendency regarding the size of the initiatives.
- Initiatives appear to be local, which is true of two of the three initiatives (67%), the last one being national (33%).
- All three initiatives are to some degree concerned with accessibility; one initiative exclusively so (33%) and two initiatives partly so (67%).
- As well, two of the three initiatives are significantly concerned with usability (67%) even if the remaining one is not (33%).
- Multi-stakeholder involvement appears to be prominent as two of the three initiatives are implemented by NGOs, private enterprises, and public organisations together (67%). Further, the last initiatives are made up of collaborations between NGOs and private enterprises (33%).
- Nothing much can be said about the content of these initiatives, but interestingly one of the three initiatives has shown some success with using e-learning modules for the education of Roma (33%).

4 LEVEL 3 Results – Analysis of country groupings

As there is some reason to believe that geography matters in national approaches to DL – whether it be because of cultural differences, political traditions, and/or current socio-economic development stages – the countries included in this study have been divided into distinct groups or clusters according to their affiliation to the European Union and their accomplishments towards i2010 goals for the analysis in the following section. Thus, we distinguish between the Old Member States and the New Member States accepted since 2004 as well as between the Member States and the two countries belonging to the European Economic Area (EEA) and the three countries outside of Europe in our reference group[4]. At the same time, we distinguish between the most and least accomplished "Information Societies", in effect identifying countries with above or below average scores on an aggregate indicator compiling information on a range of i2010 benchmarks covering infrastructure, Internet users and uses, e-Government, and basic computer skill levels[5].

Combining these two distinctions, the country groupings presented in the table below emerge. Note that while there exist both Old and New Member States with above average aggregate scores, this is primarily a feature of (some) Old Member States and that if grouped together the New Member States would rank at the lower end (but still above EU average). Concurrently, the opposite is also true. While there exist both Old and New Member States with below average aggregate scores, this is primarily a feature of (some) New Member States and that if grouped together the Old Member States with the notable exception of Greece would rank at the higher end (but still below EU average) in a sense creating a four-tiered ladder of Information Society development. Moreover, the two EEA countries rank at the very top on the i2010 aggregate indicator together with all the other Nordic countries whereas the USA and Canada presumably are comparable to the United Kingdom in the midrange above average and India mostly compares to Bulgaria, Greece, and Rumania in the lower below average range.

[4] Other obvious alternatives would be to distinguish between the geographic sub-regions defined by the UN (Northern-, Eastern-, Western-, and Southern Europe) or try to employ basic cultural (Central-, Northern-, Western-, Southern Europe) or regime based (Scandinavian/Nordic, Anglo-Saxon, Gaullist, Post-Communist) distinctions.

[5] Formally, the aggregate index is a simple average of the following variables mainly from Eurostat: Total DSL coverage, DSL coverage in rural areas, Broadband penetration, DSL penetration (all as percentage of total population), household internet connection rate (as percentage of all households), household broadband internet connection rate (as percentage of all households with an internet connection), share of basic public services for citizens fully available online, shares of population who i) are regular internet users, ii) send emails, iii) look for information about goods and services, iv) use internet telephoning or videoconferencing, v) play or download games and music, vi) listen to web radio/watch web TV, vii) read online newspapers/magazines, viii) use internet banking and who ix) use e-government services, as well as shares of population with i) no internet skills, ii) low level of internet skills, iii) medium level of internet skills, and with iv) high level of internet skills (all as percentage of total population). The relative score in relation to the EU average is utilised to adjust for the varying country availability of variables. The measure is developed by the European Commission.

Table 11: Membership status vs. i2010 aggregate indicator level

	Top (above EU average)	*Bottom (below EU average)*
Old Member States	• Netherlands (+16.0) • Denmark (+14.3) • Finland (+12.9) • Sweden (+12.1) • Luxembourg (+8.6) • United Kingdom (+6.6) • France (+4.6) • Austria (+4.5) • Germany (+3.6) • Belgium (+2.7)	• Portugal (-0.4) • Spain (-0.8) • Ireland (-2.1) • Italy (-6.1) • Greece (-15.0)
New Member States	• Estonia (+6.1) • Slovenia (+3.0) • Malta (“+”)	• Hungary (-3.0) • Lithuania (-3.9) • Czech Republic (-5.1) • Slovakia (-6.9) • Latvia (-8.6) • Cyprus (-10.1) • Poland (-10.3) • Bulgaria (-13.0) • Romania (-17.5)
European Economic Area	• Iceland (+16.9) • Norway (+15.2)	
Outside of Europe	• Canada (“+”) • USA (“+”)	• India (“-“)

Placement of Malta, Canada, USA, and India estimated due to lack of comparable data

4.1 Old Member States, above average

Characteristics of initiatives in the Old Member States with above average i2010 aggregate indicator scores:

- 185 initiatives have been identified as addressing DL in the Old Member States with above average i2010 aggregate indicator scores. This is by far the largest group of initiatives also if adjusting for the number of countries in the group. At the same time this group consists of many larger countries too (e.g. Germany, UK, and France).
- The distribution of initiatives generally follows the overall pattern quite closely with approximately a third addressing the population at large (33%) followed by roughly 20% each addressing the educational system, the disabled, and the elderly as well as 14% addressing unemployed. There is, however, a slight tendency more often to address people with a poor education and training background (9%) and a real overrepresentation of initiatives addressing ethnic minorities although small in number (10%). In both these regards, there are parallels to the initiatives identified in the EEA countries and in the USA and Canada.
- Likewise, the mixtures of various rationales on which the initiatives are built seem to closely follow the general composition. Nearly 3 in 4 initiatives have been launched to improve DL overall and users' use of ICT (74%) while nearly 40% exemplify the rationale to bridge the digital divide and achieve social inclusion. About 20% are based on the rationale to improve employability and ICT

infrastructure, the latter share being somewhat lower than in the other country groupings.

- Initiatives appear to be evenly distributed across size, 24% being large-scale and 23% being small-scale, but little more than a third of the initiatives (36%) are of unknown size.
- Only half the initiatives are implemented nationally (49%), which is a relatively low number if not for the somewhat larger share of regional initiatives (23%) coupled with the fact that many of the countries in this grouping are larger than average. Still, the share of local initiatives is the largest across all the country groupings (24%).
- Accessibility is generally not an issue as roughly two in three initiatives are not concerned with accessibility at all, which is the highest share of anywhere (66%).
- Then usability is somewhat more of an issue as about half the initiatives are either partly or significantly concerned therewith (31 and 21% respectively). Moreover, almost 30% of initiatives in this grouping appear to use an informal mode of delivery making it twice or thrice as common as in initiatives in countries with below average aggregate indicator scores (29%).
- Like everywhere else the main platform used is PCs with Internet access (93%). The employment of PCs is followed by network and infrastructure although the share is relatively low (18%). On the other hand, the share of initiatives using learning platforms is somewhat higher than elsewhere (11%).
- Regarding content, initiatives in both groupings of Old Member States involve standard computer courses less often than initiatives in the New Member States (52% compared to 61-62%) while their use of course material tailored to user needs is much more prevalent (37-40% compared to 16-26%).
- Half the initiatives are ongoing (50%), which is significantly more than in the other country groupings, but this result might correlate with a relatively lower share of initiatives for which this information is unavailable or indeterminable (22%).
- The high share of ongoing initiatives might also correlate with the share of initiatives implemented in collaboration between public organisations and various NGOs (33%) or as multi-stakeholder initiatives also involving private partners (20%), both shares being the highest of everywhere in Europe. Conversely, the share of initiatives implemented solely by public organisations or as public-private initiatives is relatively low (25 and 4% respectively).
- Other observations include the somewhat more frequent uses of symbolic or reduced user payments (15%) as well as full user payment (8%), and the fact that 50% of initiatives in this country grouping appear not to have been evaluated (similar shares might protrude elsewhere though if the information was not unavailable or indeterminate).

4.1.1 Comparing initiatives in Finland and United Kingdom

Finland and the United Kingdom as individual countries are interesting cases for different reasons. One obvious difference naturally relates to the population size, but that aside it is interesting to observe that both have had national ICT strategies in place for some years although the focus on digital skills has been part of policy longer in the UK than in Finland.

Based on the identified DL initiatives it is difficult to say whether a formal link to national strategies and policies exists in both Finland and the United Kingdom. Nonetheless, a de facto

link does exist in some cases as illustrated by the UK online centre initiatives and the "Empowering Citizens, Connecting Communities - Network Development Plan" and the ESF Pathways Project in Prisons and Probations motivated by the 2005 Home Office Green Paper "Reducing Re-Offending through Skills and Employment".

Finish initiatives fall broadly within the scope of government policies and strategies as identified DL initiatives in the period onwards focused broadly on issues, skills and social groups as described in the strategy report "Finland – Towards and Information Society – A national Outline, 1995-2000" – a strategy on reviving growth, improving competitiveness and ensuring employment. This observation also holds for later policy initiatives such as the "Quality of Life, Knowledge and Competitiveness, 1998-2005" and the "governmental information society programme, 2003-2007" and the National Reform Programme emphasising competitiveness and productivity though ICT, increased social and regional equality, and the promotion of digital competences respectively. This latter point also serves to illustrate the move from a focus on connectivity and infrastructure to one of use, competences, inclusion and quality of life in Finland. The United Kingdom differ slightly in this regard as digital skills have been a specific focus area since the "Investing in People" programme established in 1990 as a voluntary system to encourage employers to invest in skills.

Other interesting differences observed when looking at DL initiatives in Finland and the United Kingdom includes:

- National or regional initiatives in the United Kingdom are more prominent then in Finland. That said, while British initiatives are often developed centrally they are implemented locally with some variation in approach and focus although a certain standardised framework is followed.
- In Finland the DL initiatives identified tend to emerge at local level with a higher degree of stakeholder and non-profit organisations being involved. Also interesting is the high degree of local government (municipalities), agency and public libraries involvement.
- While the United Kingdom ESF Pathways Project in Prisons and Probation utilise the ECDL, in Finland a national computer diving license scheme has been developed under the title TIEKES differing somewhat from other countries in particular New Member States where the ECDL certificate has been predominant.
- A number of the countries with above average i2010 aggregate indicator levels have developed various types of competence ladders including the United Kingdom, Denmark, Norway and Finland (the Verkko Tikas "Web Ladder").

4.2 Old Member States, below average

Characteristics of initiatives in the Old Member States with below average i2010 aggregate indicator scores:

- 73 initiatives have been identified as addressing DL in the Old Member States with below average i2010 aggregate indicator scores. This is the second smallest group of initiatives by absolute number and the second largest if adjusting for the number

of countries in the group (however, once again many of the countries in this group are large countries too).

- The distribution of initiatives only follows the overall pattern to some extent. It follows similar large shares addressing the population at large (32%) and disabled (23%), whereas shares of initiatives addressing young people at risk and women nearly surpass the normally larger shares of initiatives addressing the educational system and elderly (all levelling at around 14-15%). Initiatives addressing the unemployed are also somewhat underrepresented at 11%, whereas initiatives addressing ethnic minorities are somewhat more common than in the overall collection (11%). Regarding the stronger focus on young people at risk and ethnic minorities there is some resemblance with the initiatives identified in the USA and Canada.
- In this country grouping the rationale to improve DL overall and improve users' use of ICT is equally as strong as in the other grouping of Old Member States (74%). However, the ambitions to bridge the digital divide and to improve ICT infrastructure are much more pronounced reaching 45% and 27% respectively, which are among the highest shares in any of the four groupings. Furthermore, although a less prevalent rationale, the share of initiatives based on the rationale to increase citizenship development and democratic participation is higher than anywhere else (12%), perhaps reflecting the stronger focus on young people at risk. Interestingly, the blend of rationales once again brings resemblance to the selection of initiatives identified in the USA and Canada.
- About a quarter each of the initiatives are either large-scale or small-scale (25 and 27% respectively), but little more than a third of the initiatives (36%) are of unknown size.
- Slightly over half the initiatives in this grouping are implemented nationally (55%), which is still a relatively low number if not for the somewhat larger share of regional initiatives (25%) coupled with the fact that also many of the countries in this grouping are larger than average. Unlike in the grouping of Old Member States with above average aggregate scores though, the share of local initiatives is not much different from the overall share (21%).
- Perhaps not surprisingly given the prevalence of the rationale to improve ICT infrastructure, more than half of the initiatives are either significantly or partly concerned with accessibility (25% and 30% respectively). Only little more than a third of the initiatives are not concerned with this issue at all (36%).
- Despite of this, usability is nevertheless a relatively big issue too, as two in five initiatives are significantly concerned with usability (41%) and one in five is partly concerned with it (22%). On the other hand, the use of informal modes of delivery appears to be less prevalent in this grouping and even somewhat below the overall average (16%).
- PCs with Internet access are the main platform used (96%). Network and infrastructure are also commonly involved (27%), and in contrast to the similar strong employment of network and infrastructure in New Member States with above average aggregate scores, there is a significant use of PIAPs involved (12%).
- As already mentioned earlier, standard computer course material is less often used in this grouping and the other country grouping of Old Member States (52%) while use of course material tailored to user needs is much more prevalent (40%). Moreover, the share of initiatives aimed at producing new content is relatively high

(21%), whereas community and innovation driven content does not feature frequently (8%).

- Only 21% of the initiatives are ongoing while one in three is not (33%). However, for 38% of the initiatives this information is unavailable or indeterminate.
- Initiatives in this grouping are predominantly implemented by the public organisations. Thus, 53% are operated by public organisations, which is a larger share than anywhere else except in the two EEA countries. All types of collaborations between public organisations and NGOs and/or private enterprises are underrepresented.
- Other observations worth mentioning are a somewhat larger share of initiatives, which has been evaluated at some point (36%). However, for almost as many initiatives this information is unavailable or indeterminate (30%).

4.2.1 Comparing initiatives in Greece and Ireland

Greece and Ireland have both responded to European initiatives by developing national strategies and policies responding to the Lisbon Agenda and European Commission action plans such as eEurope 2002 and 2005 plus i2010. It is interesting to observe that both Greek and Irish initiatives seem to reflect European Commission policies as illustrated by the 1999 White Paper "Greece in the Information Society: Strategy and Actions" and the later "OP.IS Operational Programme for the Information Society" plan relying on the 3rd Community Support Framework as its main policy and budgetary mechanism. Ireland has like Greece also followed European initiatives closely and has also developed national strategies and policies like the 1999 "Implementing the Information Society in Ireland" action plan. In addition, a national Information Society Policy Unit (ISPU) in the Department of the Taoiseach has been established in Ireland. ISPU have the overall responsibility for developing, co-ordinating and driving the implementation of the Irish Information Society agenda.

National strategies and policies in Greece and Ireland have changed from focusing on rollout of infrastructure and broadband (as in initial action plans referred to above and the 2003 Irish Broadband Strategy) to increasingly including digital skills and competence development. This is reflected in the Greek "Operational Programme: Education and Life-Long Learning", "Law 3369/2005 – Systematization of life-long learning and other provision" and the establishment of the central body knows as the Life-Long Learning Committee. In Ireland the realisation of the importance of DL initiatives seem to have been earlier with the 2002 "Equal Skills" project and the 2005 "ASC – Access, Skills and Content Initiative".

In both Greece and Ireland most DL initiatives are funded nationally and thus linked to national strategies and policy programmes. Still, a key difference is that while in Greece DL initiatives are largely national or regional, in Ireland national programmes are mainly aimed at funding initiatives developed and implemented locally. Another interesting observation is that the Irish 2002 pilot project Equal is now implemented nationally and European wide including in Greece. Ireland has a far more decentralised approach to implementation of the identified DL initiatives when compared to for instance Greece.

Another observation is a far greater variation in target groups and plethora of identified DL initiatives existing in Ireland when compared to Greece. This is to a large extent due to the project model chosen in the two countries, in which the Irish Government provides the overall guidelines and funding mechanism for locally developed and implemented projects. This

means that the average size of Irish DL initiatives tend to be smaller, more targeted and tailored to local communities, needs and problem scenarios thus reflecting as diverse groups as youth, seniors, disabled, women, minorities, rural and urban areas, education etc. In contrast the DL initiatives identified in Greece tend to focus on the population at large and to improve employability, although this also includes other sub-groups and communities such as the disabled and youth, etc.

The above is also linked to the type of stakeholder involvement most prolific in the DL initiatives identified in Greece and Ireland. Where the former is largely developed and implemented by national and regional public sector organisations and educational institutions such as Universities, initiatives in Ireland are mainly the result of cooperation between local stakeholders including interest organisations, non-profit organisations and local authorities in a variety of constellations as illustrated by the 166 projects funded in 2006 and 2007 under the "ASC – Access, Skills and Content Initiative".

4.3 New Member States, above average

Characteristics of initiatives in the New Member States with above average i2010 aggregate indicator scores:

- 31 initiatives have been identified as addressing DL in the New Member States with above average i2010 aggregate indicator scores. This is the smallest group of initiatives both by absolute number and when adjusting for the number of countries in the group (all of which incidentally are small). The low number of countries and initiatives make comparisons somewhat less robust against stray inputs, but these three countries are of particular interest for their significant accomplishments towards i2010 goals.
- Initiatives in this grouping appear to be more concentrated on a few target groups than in any of the other groupings represented. Furthermore, each initiative appears to be more targeted in the sense that initiatives address fewer target groups at once. Like in the other groupings the population at large constitutes the largest target group as more than one in three initiatives address this group (35%) and the disabled also constitutes a significant recurring group (23%). But beyond these two target groups, only three groups are addressed by more than 10% of the initiatives, namely the educational system (29%), the elderly (13%), and the unemployed (10%). Moreover, initiatives addressing the elderly and the unemployed are actually somewhat underrepresented together with initiatives addressing people with poor education and training, young people at risk, women, rural development, and urban development areas. The strong focus on the educational system is similar to the focus of initiatives selected in India.
- Surprisingly, the blend of rationales is both more concentrated and detached than in the other country groupings too. 71% of initiatives are based on the rationale to improve DL overall and users' use of ICT; 29% have been launched with the ambition to improve ICT infrastructure (slightly more than in the previous grouping of Old Member States with below average aggregate scores); and 26% list the rationale to bridge the digital divide and achieve social inclusion among the motives. No other rationale reaches above 10% of the initiatives and most are underrepresented, which is even true of the third most active rationale.

- More than half of the initiatives are of unknown size (52%) and the rest appears to be roughly evenly distributed making it difficult to discern any trend in size.
- An overwhelming number of initiatives tend to be national (81%). Only 13% are local.
- Considering the large share of initiatives with the rationale to improve ICT infrastructure and the relative little overlap between rationales, the relatively large share of initiatives with an exclusive focus on accessibility is not unexpected (16%). Next after initiatives in the previous grouping of Old Member States with below average aggregate scores, this group of initiatives features the lowest share of initiatives not concerned with accessibility at all (48%).
- Usability focus is close to average although a larger share of initiatives than anywhere else is not concerned with usability at all (48%). Use of informal modes of delivery also appears close to average and higher than in the groupings of countries with below average aggregate indicator scores (19%).
- Although still the main platform, the share of initiatives using PCs with Internet access is actually among the lowest (90%). On the other hand, the share of initiatives employing network and infrastructure is among the highest (32%), number-wise only matched among the initiatives selected in the USA and Canada, but as already mentioned above the use of PIAPs is not (indeed the use of PIAPs would appear to be somewhat underrepresented at 3% of the identified initiatives). Some small use of open source tools is also in evidence (6%).
- Standard computer courses are widely used in this group of New Member States (61%). Conversely, courses tailored to user needs generally do not appear to be employed to any large degree (16%). One in five initiatives are aimed at producing new content – a surprisingly high share in light of the predominant focus on infrastructure and standard material (19%), but it may be partially explained by the large share of initiatives addressing the educational system. e-learning modules and community and innovation driven content play insignificant roles (13% and 6% respectively).
- Approximately a third each of the initiatives is ongoing, not ongoing, and unknown making it difficult to ascertain anything regarding this issue.
- Initiatives are predominantly public (38%), but a significant share – indeed the largest across all groupings – are implemented as public-private initiatives (16%). Moreover, a quarter of the initiatives involve collaboration between public organisations and NGOs (26%), but for some reason multi-stakeholder initiatives appear to be practically nonexistent (3%).

4.3.1 Comparing initiatives in Estonia and Slovenia

Estonia and Slovenia interestingly have adopted very similar approaches to DL. Whether this has been a conscious decision cannot be determined from the country report or the DL initiatives identified.

Both countries have been developing national strategies and policies responding to the Lisbon Agenda and European Commission action plans such as the eEurope Action Plans and i2010 although an important difference is that Estonia developed its first national strategy – the "Estonian Information Policy" – in 1998 whereas Slovenia's first national strategies were the "National Development Programme 2001-2006" (by the now defunct Ministry of Information Society) and the "National Strategy on Information Society 2003-2006".

Both countries to date have focused mainly on the roll-out of infrastructure including broadband connectivity and accessibility in particular through formal channels such as local access points and on the educational system. This is further emphasised by Estonia's present strategy "Estonia Information Society Strategy 2013" which highlights inclusion through the provision of access and training. Slovenia on the other hand has implemented a specific "eLearning Strategy for 2006-2010" covering both infrastructure and skills development mainly through the formal education system and including the use of ECDL. This is made available via the "Digital Literacy of Unemployed" project.

Both countries have used a centralised approach, partly explained by the relative small population sizes. The vast majority of DL initiatives identified are national in scope and source of funding, but with local implementation.

Target groups and the type of partners common in the DL initiatives identified in both Estonia and Slovenia are also very similar. Development and funding is often done by public organisations at national level but implemented or accessible locally though schools or public centres. The target audience mainly includes teachers and pupils in primary and secondary schools, the elderly and the disabled, although other communities are also covered.

4.4 New Member States, below average

Characteristics of initiatives in the New Member States with below average i2010 aggregate indicator scores:

- 105 initiatives have been identified as addressing DL in the New Member States with below average i2010 aggregate indicator scores. This is the second largest group of initiatives, but only the third largest when adjusting for the number of countries in the group (a mix of small and large countries).
- Regarding target groups, initiatives in this grouping do not share many commonalities with initiatives in the three other New Member States. Although still somewhat more targeted than in the Old Member States, the distribution of initiatives across target groups suggests an altogether different profile. While still comprising a large share of initiatives addressing the population at large (30%), the focus on the educational system is relatively low (16%) – much like in the other below average countries on the aggregate indicator – and notably, for the first time, the share of initiatives addressing the disabled is no longer the second largest (17%). Rather, it has been surpassed (although not by much) by both the share of initiatives addressing the elderly (20%) and the share addressing the unemployed (18%). The share of initiatives addressing the disabled in this grouping is interestingly the lowest of all, whereas the share addressing the unemployed is the highest. Nevertheless, this focus on the unemployed does not appear to translate into initiatives specifically addressing people with poor education and training, which are practically nonexistent (3%). Rural development initiatives are slightly overrepresented (9%).
- The focus on the unemployed is also evident in the much more prevalent use of the rationale to improve employability in this country grouping compared to the others. Approximately one in four initiatives are based on the rationale to improve

employability (27%) whereas a somewhat lower share than usual lists the more general rationale to improve DL overall and users' use of ICT among the motives (67%). Although not exceptional, bridging the digital divide and achieving social inclusion and to a lesser extent improving ICT infrastructure are also common rationales in this grouping (35 and 22% respectively).

- Two in five initiatives are of unknown size (40%) and the rest is evenly distributed making it difficult to discern any trend in size.
- Like initiatives in the other grouping of New Member States, these initiatives overwhelmingly tend to be national (75%). Only 11% are local.
- While featuring below average scores on the i2010 aggregate indicator, initiatives in this grouping are generally not concerned with accessibility at all (59%), which deviates considerably from the focus of initiatives in other groupings, particularly from the New Member States with above average aggregate scores and from the Old Member States with below average aggregate scores.
- Usability is a somewhat bigger issue as half the initiatives are either partly or significantly concerned with usability (21% and 31% respectively). These shares are not unusual. Informal modes of delivery, however, appear to be relatively uncommon (11%).
- Initiatives are almost exclusively based on using PCs with Internet access, which characterises 97% of all initiatives in this grouping. Some employment of network and infrastructure is apparent, but less than in the New Member States with above average aggregate scores and the Old Member States with below average aggregate scores (21%).
- Content is also highly standardised as in the other three New Member States (62%). Courses tailored to user needs are used more, although to a lesser extent than in the Old Member States (26%). E-learning modules are somewhat underrepresented (14%), and initiatives aimed at producing new content almost nonexistent (8%). But interestingly, this grouping features the highest share of initiatives with community and innovation driven content (14%).
- For more than half of all initiatives the extent of evaluation is unknown either because the information is unavailable or because it is still too early to ascertain whether initiatives will be evaluated (55%).
- The stakeholder profile resembles that of the other three New Member States, but with more pronounced use of multi stakeholder approaches (14%, second largest of all) and collaboration between public organisation and NGOs (22%, less than average) instead of some public-private initiatives (11%, still second largest of all) and public solo initiatives (35%).
- Other observations worth mentioning are that roughly a quarter of initiatives involve awards of certificates or diplomas, which is more than anywhere else in Europe (26%).

4.4.1 Comparing initiatives in Hungary and Bulgaria

Hungary and Bulgaria differ in the timing of national information society policy and strategy with 1999 seeing the approval of a Strategy for Information Society Development by the Bulgarian Government and the 2002 e-Government Strategy of Bulgaria. In comparison the National Action Plan of Hungary first came into effect in 2003. That said both countries have developed national action plans in response to European initiatives such as eEurope 2002, 2005 and i2010 and have largely focused on accessibility and connectivity as illustrated by

the 2004-2007 "i-Bulgaria" initiative and the Hungarian "Information Society Strategy (2003)", the "New Hungary Development Plan (2006)" and the "National Broadband Strategy (2005-2013)".

Differences in policy orientation also exist, the most important being a Hungarian focus on content development as illustrated by the founding of the Hungarian Association of Content Industry (MATISZ) in 1991 and the digital education content project Sulinet in 1997. By contrast the focus in Bulgaria has been on inclusion and equal opportunities as exemplified by the national strategy and action plans for "Equal Opportunities for People with Disabilities" from 2003 onwards.

In both Hungary and Bulgaria national DL initiatives seem to be the norm although to a lesser extent in the former, but like in Estonia and Slovenia, national initiatives are most often implemented by local partners. In fact the Bulgarian "T-Centre" initiatives show an impressive range of local access points – more than 130 throughout the country indicating a strategy based on a centralised approach to programme development but a decentralised approach to implementation.

Whether there is a formal link between DL initiatives and national policy and strategy is not clear from the identified projects, although a number of both Hungarian and Bulgarian initiatives involve partners from the public sector and thus follow aspects of national strategy. Examples of this includes "T-Centres", "ICT cluster", "SU-CIST – Sofia University Center for Information Society Cluster" and the "Training for Reconcilement between Work and Family for Women" initiatives in Bulgaria. In Hungary similar examples exists including the "Digital Secondary School Programme" and "Wi-Fi Village" both targeting minorities and rural areas in particular, "Sulinet", "eHungary – eAdvisor (eTanácsadó) 2,0 Programme" and "NETRE Kész (Ready for the NET)" for the elderly, middle-aged in rural areas, youth, economically inactive (including woman) to name a few.

An interesting aspect of the identified DL initiatives in both Hungary and Bulgaria is the inclusion of a number of different stakeholders. For some the focus is very broad and includes public administrations, private sector, NGOs, associations and other interest organisations. One difference observed is that more local stakeholder initiatives have been identified in Hungary when compared to Bulgaria including the "Click, Granny! (Kattints Rá, Nagyi!)", the interesting "Grandchildren-Grandparents IT Contest", the "Non-profit Information and Training Centre (Non-profit Információs Oktató Központ, NIOK)" and "Informatics for the Blind Foundation (Informatika a Látássérültekér Alapítvány)".

5 Analysis of initiatives recommended for further analysis

5.1 Selection criteria

In selecting cases for further analysis, all of the dimensions above should be represented in principle, not only in the total sample, but also within each country grouping as defined by membership status and i2010 aggregate indicator scores. In addition, considering that this collection of initiatives effectively constitutes the first step towards identification of good practices, as many of the short-listed initiatives as possible should preferably have shown some sort of success in reaching disadvantaged groups and improving digital literacy, be innovative in the use of approaches and methods, and be replicable under different circumstances.

However, given the available information included in the Annex A descriptions, the latter criteria may not be entirely feasible at present. Nevertheless, they do suggest a number of guidelines to be applied when trying to cover the defined dimensions. Thus, in selecting cases priority has been given to the following initiatives:

- Initiatives that explicitly **target one or several disadvantaged groups** to maximize the number of cases not simply affecting disadvantaged people in general terms (population and disadvantaged groups at large) or only indirectly (educational system).
- Initiatives that **use online learning platforms or support digital literacy development for mobile telephone and PDAs** instead of- or in addition to the standard use of basic computer equipment.
- Initiatives that include the **use of audio, video or graphic (multimedia) content** and not just text based materials.
- Initiatives that **support the development of user produced and/or community driven content** conceiving the acquisition of ICT skills not as an end in itself, but as a means towards accomplishing something more.
- Initiatives that appear to have been **evaluated** or initiatives which have been **running for several years and are still running** so that their impact can be assessed either through documents or at least through contact with implementers and potentially users.
- Initiatives which in their description have **documented impact** and/or have been **recommended by the correspondents** compiling the country reports and annex descriptions (presumably correspondents will possess knowledge or tacit impressions about the potential value of each initiative beyond what has been described in Annex A).

Furthermore, the selection of cases has been guided by the constraint that – with a minimum of exceptions – only 2 or 3 initiatives from each small country and 4 or 5 initiatives from each large country (more than 20 million inhabitants) should be represented in the sample.

5.2 Selected initiatives

Based on these guidelines, a total of 87 initiatives are proposed for further analysis. Together the selected cases provide an almost complete coverage of the range of all dimensions across all country groupings. Moreover, nearly all countries are represented by at least one initiative (only exceptions are Iceland, Lithuania, and Luxembourg) and no country has more than six initiatives included (France, UK, USA). It will be possible to include two to three additional initiatives before the submission of the deliverable TR3 if we are made aware of interesting cases that meet the following of the above criteria:

- Initiatives that **support digital literacy development for mobile telephone and PDAs** instead of- or in addition to the standard use of basic computer equipment.
- Initiatives that include the **use of audio, video or graphic (multimedia) content** and not just text based materials.
- Initiatives that **support the development of user produced and/or community driven content** conceiving the acquisition of ICT skills not as an end in itself, but as a means towards accomplishing something more.

Of the 87 initiatives selected, 46% have been evaluated in some form compared to 32% overall while 53% are either ongoing or have been transferred to new projects compared to 43%. In total, only 29% of the selected initiatives appear to be neither ongoing nor to have been evaluated. At the same time, 55% of the initiatives have been recommended by their respective regional correspondents or by experts with comprehensive knowledge of relevant DL activities in the respective countries.

Table 15: Evaluation and Status vs. Selected initiatives

		In sample	Overall	(n)	OMS		NMS		EEA	Outside of Europe	
					Top	*Bot-tom*	*Top*	*Bot-tom*	*Top*	*Top*	*Bot-tom*
Evaluation	*Systematic and integrated in wider assessment*	28%	18%	(24)	*11*	*5*	*3*	*1*	*0*	*3*	*1*
	Irregular	18%	14%	(16)	*7*	*3*	*0*	*3*	*1*	*2*	*0*
	No evaluation	25%	40%	(22)	*11*	*3*	*1*	*4*	*0*	*3*	*0*
	Not known	29%	28%	(25)	*3*	*5*	*2*	*11*	*1*	*1*	*2*
Status	*Continued or ongoing project*	47%	39%	(41)	*13*	*10*	*4*	*7*	*1*	*5*	*1*
	Transferred/expanded to new project	6%	4%	(5)	*1*	*1*	*0*	*2*	*0*	*1*	*0*
	Not ongoing	20%	22%	(17)	*9*	*3*	*1*	*3*	*0*	*1*	*0*
	Not known	29%	35%	(25)	*9*	*3*	*1*	*7*	*1*	*2*	*2*

Comparing the distribution of target groups in the sample with the overall distribution, two divergences are evident. On the one hand, the share of initiatives addressing the educational system at 5% is less than half as large among the selected initiatives as among all initiatives (compared to 19%). Moreover, the share of initiatives addressing the population at large is slightly smaller than the overall share, although the difference is not as pronounced (29 compared to 31%) since several initiatives addressing the population at large also target specific disadvantaged groups. On the other hand, all other shares are significantly larger among the selected initiatives except within the groups addressing health and long-term care disadvantages, criminal and other illegal behaviour, and other (very marginalised) groups, but these groups of initiatives are also very small overall comprising 6, 11, and 3 initiatives respectively. Moreover, at least one initiative targeting every group is present in nearly all country groupings.

Table 16: Target groups vs. Selected initiatives

	In sample	Overall	(N)	OMS		NMS		EEA	Outside of Europe	
				Top	*Bot-tom*	*Top*	*Bot-tom*	*Top*	*Top*	*Bot-tom*
i. Population/Disadvantaged groups at large	29%	31%	(25)	*12*	*2*	*4*	*5*	*0*	*1*	*1*
ii. Educational system	5%	19%	(4)	*1*	*0*	*2*	*0*	*0*	*0*	*1*
iii. Work related	5%	5%	(4)	*1*	*1*	*0*	*1*	*0*	*1*	*0*
iv. Poor education and training	17%	7%	(15)	*5*	*4*	*1*	*1*	*0*	*4*	*0*
v. Unemployed	20%	12%	(17)	*6*	*5*	*2*	*4*	*0*	*0*	*0*
vi. Disabled	25%	20%	(22)	*7*	*4*	*1*	*7*	*0*	*3*	*0*
vii. Health	1%	1%	(1)	*1*	*0*	*0*	*0*	*0*	*0*	*0*
viii. Elderly	37%	18%	(32)	*13*	*6*	*2*	*8*	*1*	*2*	*0*
ix. Young people at risk	17%	8%	(15)	*3*	*6*	*1*	*1*	*0*	*4*	*0*
x. Women	20%	10%	(17)	*5*	*4*	*1*	*4*	*1*	*1*	*1*
xi. Rural development	18%	8%	(16)	*4*	*4*	*0*	*2*	*0*	*4*	*2*
xii. Urban development	9%	3%	(8)	*4*	*2*	*0*	*0*	*0*	*2*	*0*
xiii. Ethnic, cultural and language minorities	16%	10%	(14)	*5*	*4*	*0*	*1*	*1*	*3*	*0*
xiv. Criminal and other illegal behaviour	5%	2%	(4)	*3*	*0*	*0*	*0*	*0*	*1*	*0*
xv. Other groups	5%	1%	(4)	*2*	*1*	*0*	*0*	*0*	*1*	*0*

Regarding size and level of implementation, the distributions of the selected initiatives mostly resemble the overall distributions, but it is worth mentioning the much smaller share of initiatives for which the size is unknown (22% compared to 40%) suggesting a robust identification of informative cases. A somewhat larger share of local initiatives (29% compared to 19%) is also encouraging in so far as local initiatives tend to be more progressive in terms of stakeholder and target audience involvement. All country groupings are still largely represented along both dimensions.

Table 17: Size and Level of implementation vs. Selected initiatives

		In sample	Overall	(n)	OMS		NMS		EEA	Outside of Europe	
					Top	*Bot-tom*	*Top*	*Bot-tom*	*Top*	*Top*	*Bot-tom*
Size	Large	31%	22%	(27)	*10*	*4*	*1*	*3*	*0*	*7*	*2*
	Medium	20%	14%	(17)	*4*	*4*	*2*	*7*	*0*	*0*	*0*
	Small	28%	23%	(24)	*10*	*5*	*1*	*4*	*2*	*2*	*0*
	Not known	22%	40%	(19)	*8*	*3*	*2*	*5*	*0*	*0*	*1*
Level	National	54%	58%	(47)	*13*	*9*	*6*	*15*	*0*	*4*	*0*
	Regional	16%	19%	(14)	*5*	*2*	*0*	*1*	*0*	*3*	*3*
	Local	29%	19%	(25)	*14*	*5*	*0*	*2*	*2*	*2*	*0*
	Not known	1%	5%	(1)	*0*	*0*	*0*	*1*	*0*	*0*	*0*

Then the identification of interesting atypical initiatives poses a potentially more problematic issue in relation to the proposed selection. First, 97% of initiatives are still simply based on the use of PCs, which is actually a higher share than in the overall collection where 91% employ PCs. Secondly, shares employing PDAs or notebooks, mobile phones, open source tools, and learning platforms are in no instances significantly higher than the small proportions overall. Moreover, the actual number of selected initiatives employing these types of platforms only ranges between 1 and 5. The low shares of non-standard platforms, however, are in part a result of minimizing the share of initiatives addressing the educational system to which most uses of non-standard platforms pertain, and indiscriminately including the remaining initiatives for further analysis does not seem a viable solution. This interpretation is supported by the doubling of the share of initiatives involving PIAPs (from 8% to 17%) among the proposed initiatives equating to a solid 15 initiatives distributed across most country groupings except New Member States with above average aggregate indicator scores.

Table 18: Platform vs. Selected initiatives

	In sample	Overall	(N)	OMS		NMS		EEA	Outside of Europe	
				Top	*Bot-tom*	*Top*	*Bot-tom*	*Top*	*Top*	*Bot-tom*
i. PCs	97%	91%	(84)	*31*	*16*	*6*	*19*	*2*	*8*	*3*
ii. PDAs/Notebooks	3%	4%	(3)	*2*	*0*	*0*	*1*	*0*	*0*	*0*
iii. Mobile phones	1%	1%	(1)	*0*	*0*	*0*	*1*	*0*	*0*	*0*
iv. PIAPs	17%	8%	(15)	*6*	*4*	*0*	*3*	*0*	*1*	*1*
v. Open source tools	3%	2%	(3)	*0*	*0*	*1*	*2*	*0*	*0*	*0*
vi. Learning platform	6%	8%	(5)	*3*	*0*	*0*	*1*	*1*	*0*	*0*
vii. Network/infrastructure	23%	22%	(20)	*5*	*3*	*2*	*5*	*0*	*3*	*2*

Table 19: Content vs. Selected initiatives

	In sample	Overall	(N)	OMS		NMS		EEA	Outside of Europe	
				Top	*Bot-tom*	*Top*	*Bot-tom*	*Top*	*Top*	*Bot-tom*
i. Standard computer courses (ECDL, MSoffice, etc.)	62%	53%	(54)	*21*	*8*	*6*	*15*	*0*	*3*	*1*
ii. Courses tailored to user needs	34%	32%	(30)	*15*	*5*	*1*	*4*	*1*	*4*	*0*
iii. Courses aimed at producing new content (websites, blogs, etc.)	11%	15%	(10)	*3*	*4*	*1*	*1*	*0*	*1*	*0*
iv. Online courses (e-learning)	13%	17%	(11)	*5*	*1*	*0*	*2*	*1*	*1*	*1*
v. Community and innovation driven content	21%	13%	(18)	*9*	*1*	*0*	*2*	*1*	*3*	*2*

Some of the same linkages relate to the patterns in shares of atypical/non-standard content as well where courses aimed at producing new content and courses involving online learning (e-learning) are more frequent among initiatives addressing the educational system and initiatives addressing the population at large (which have also been minimized to some extent). Yet on this dimension a more solid selection is evident than concerning the range of platforms. Furthermore, shares of initiatives involving courses tailored to user needs and community and innovation driven content are quite significant and relatively larger than the overall shares (34% and 21% respectively compared to 32% and 13%).

Table 20: Rationale vs. Selected initiatives

	In sample	Overall	(N)	OMS		NMS		EEA	Outside of Europe	
				Top	*Bot-tom*	*Top*	*Bot-tom*	*Top*	*Top*	*Bot-tom*
i. Improve employability	28%	21%	(24)	*8*	*6*	*1*	*7*	*0*	*2*	*0*
ii. Improve quality of life	17%	12%	(15)	*3*	*1*	*1*	*4*	*2*	*3*	*1*
iii. Improve digital literacy overall	80%	69%	(70)	*25*	*13*	*5*	*17*	*2*	*6*	*2*
iv. Condition-specific improvements	8%	13%	(7)	*1*	*2*	*0*	*2*	*0*	*2*	*0*
v. Citizenship development	11%	7%	(10)	*2*	*3*	*0*	*3*	*1*	*1*	*0*
vi. Bridge digital divide and social inclusion	53%	37%	(46)	*18*	*12*	*1*	*9*	*1*	*4*	*1*
vii. Improve ICT infrastructure	25%	23%	(22)	*5*	*3*	*1*	*5*	*0*	*6*	*2*
viii. Other rationale	8%	5%	(7)	*2*	*3*	*0*	*1*	*0*	*1*	*0*

Finally, the minimizing of initiatives addressing the educational system presumably accounts for at least some of the fall in the share of initiatives based on the intention to create condition-specific improvements (the other large group of these initiatives is for the disabled). However, while both the number of initiatives with this rationale and the number of initiatives with the rationale of citizenship development and democratic participation are at the lower end, the proposed initiatives are evenly distributed across country groupings. Hence, we consider the proposed selection of initiatives (see section 7.1. for individual details) to be highly valuable as a sufficient basis for further analysis along the previously presented dimensions and as a suitable shortlist for identification of best practices.[6]

[6] Although not shown, the proposed selection of initiatives in addition has a much lower share of purely public initiatives (20% compared to 33%) and a much higher proportion of multi-stakeholder initiatives (26 compared to 15%). Moreover, the share of informal initiatives is also significantly higher than overall (34 compared to 22%) while nearly one in three initiatives has at least a partial focus on both accessibility and usability (31 compared to 22%).

6 Conclusions and recommendations for the next stage

- **To which extent have DL initiatives targeted disadvantaged groups?**

A fair share of initiatives in Europe tries to address the perceived needs of disadvantaged groups. Especially target groups like the disabled and the elderly, and to some extent the unemployed, are prioritised in Europe, whereas young people, women, ethnic groups, and deprived groups in rural areas receive less focus.

The focus on disabled and elderly people in European initiatives could be linked to the fact that the needs of these groups in relation to DL are very distinct. For instance, elderly people often have problems working out the platform/devices (PCs, mobile telephones, touch screens) they need to use. Other elderly people have trouble working out the basic operations and the workings of the Windows operating system. Similarly, disabled people have specific requirements in terms of hardware and software tools and set specific requirements for how homepages and online services are designed and structured for them to be able to access and use such services.

The other disadvantaged groups require more in-depth thinking about how the DL initiative is presented to these groups and what is actually being learned. To give an example, many women actually have strong ICT skills in very narrow fields of interest, but still attain weak DL levels in terms of informational and strategic skills because they do not practice a broad use of ICT (one might easily imagine women – and others – being able to text message practically without looking and still be at a loss as to narrowing down queries on the Internet concerning which mobile phone to buy next). Further, young people may have strong skills in terms of playing online games, but do not use other information, production or communicative services, which puts them at risk when entering the job market where such skills (not necessarily specialist skills, but basic computer and Internet skills) will become an integral prerequisite for many of the tasks they will be facing. The same can be said of ethnic minorities (immigrants and others) for whom different cultural backgrounds might possibly make them react in different ways to the same DL initiative.

In this regard, there is evidence to suggest that Europe may be able to learn from the DL initiatives selected in North America since a large share of these initiatives has targeted ethnic groups, and North America generally has a longer history of addressing these groups compared to Europe (perhaps apart from the UK, France, and the Netherlands, all countries with strong colonial histories and significant shares of citizens moving in from those traditional interest areas).

- **What are the most important types of DL initiatives since 2000 and which approaches, methods and tools have been most widely used?**

The study shows that initiatives aimed at building network infrastructure that in turn will allow people to actively develop DL are still important in Europe and in other parts of the world as well.

Also strongly rooted in national policies and strategies are DL initiatives that provide standard (ECDL based) courses to large groups of people covering different disadvantaged target groups. The majority of these initiatives is delivered on PC/Internet platforms, and experiments and projects using other devices are only found in a few cases – the reason being that DL initiatives are also strongly rooted in the current use base and not as yet taking into account the preferred medium and form (audio, text, pictures, video, 3d) of the various disadvantaged groups. Thus, although there are more people in Europe who own mobile phones it is still only a minority that uses their phones for more than telephone conversations and text messaging. It is anticipated that as mobile telephone services beyond these uses become broadly available and affordable, as well as interactive TV and other appliances in households and PIAPs, we will see more DL initiatives that will provide support for disadvantaged groups also on these platforms and using a variety of multimedia presentation and production forms.

Consequently, it is not surprising that certain types of DL initiatives are emerging and developing coverage:

- Online learning platforms and resources providing learning opportunities for disadvantaged groups that are unable to attend PIAPs, educational institutions, or community centres or indeed to achieve economy of scale in the delivery DL initiatives. There are also such examples tailored to specific groups like the elderly or ethnic groups (language training using online tools – a Norwegian example).
- Initiatives supporting community and innovation driven content and the production of new content are also emerging along with the evolution of WEB2.0. In fact, it is difficult to estimate the real impact of such initiatives because many of these initiatives are not even picked up by our study as they are solely developing as bottom-up virtual community driven networks. Examples are national and international communities sharing common interests in for instance improving the climate or researching certain illnesses. The real challenges for formal initiatives supporting the development of community driven content is to make this attractive for disadvantaged groups – in a DL sense – like the elderly, ethnic groups, unemployed ,etc. There are examples in Holland (Web in de Wijk) and Spain (XenoCLIPSe) that have been successful in reaching these groups with this approach.

- **Which types of initiatives hold the largest promises in terms of achieving good results? In effective initiatives, what have been the key facilitators for development?**

Several factors appear to impinge on the successful provision of DL initiatives for the disadvantaged. Strong roots in national strategy are, although not in themselves sufficient, paramount to building working initiatives able to powerfully reach and impact on the intended recipients. Initiatives developed in accordance with politically recognized strategic goals have a much simpler pathway from conception to implementation with more easy access to potential gatekeepers and are much more likely to obtain the required resources (barring empty rhetoric and political correctness) in every part of the process. Central support can hardly be underestimated in making certain that intentions are not amputated or perverted neither in the preparatory phases nor in the operational stage at the user end of the system.

It should be equally clear, however, that strong roots in a national strategy do not automatically ensure success neither in terms of properly targeting end groups nor in achieving real impact. For one, policy objectives may change, not least when new governments are instituted and/or public administrations are reorganised leaving initiatives suddenly hanging in the air. Moreover, central support is not identical to unlimited resources and political objectives are rarely singular. Finally, and just as important, public administrations are not necessarily best suited for reaching special needs groups. Hence, another factor favourable to successful DL initiatives is access to resources independent of government both in the form of knowledge regarding location- or user specific circumstances as well as in the form of capital, equipment, and infrastructure.

At the same time, the entrepreneurial power of local champions provides a third source of successful DL initiatives not to be disregarded because of their often miniscule capital or sometimes unorthodox views contrary to political mainstream. Imagination, enthusiasm, and relentless pursuit of personal or organisational vision can result – indeed frequently does result – in surprising outcomes showing that people and organisations with genuine interest are invaluable to the small-scale grass-roots type initiatives that commonly serve the constituencies not easily reached by government.

- **What has been the role of various different actors? What are the experiences with the involvement of different types of stakeholders?**

There is evidence to suggest that initiatives that have a multi-stakeholder approach and/or involve private actors are more likely to be sustainable. Having said that, there are also examples of mainly publicly driven initiatives that have been strongly rooted in solid policies and strategies and have provided sufficient funding and support to reach large audiences with both network infrastructure and DL courses to make a real difference in terms of ECDL type certificates achieved. A significant proportion of these initiatives have focused on specific target audiences such as teachers, people working in the public sector, students and pupils and certain occupations in work related areas.

There is evidence to suggest that initiatives aimed at certain disadvantaged groups very often involve the active participation of associations and organisations that know the needs and have insights into the most relevant approaches for the target groups in question. In fact, it is hard to imagine such initiatives working without the involvement of such organisations - particularly in relation to ethnic groups, the elderly, the unemployed (the involvement of unions and work places where possible), the disabled and criminals (the prisons and the social services).

The real challenge is how these organisations and their target audiences become involved in the design, preparation and running of the DL initiative. In this area, we believe there is still room for improvement, and in the next phase we will be looking for initiatives that have successfully introduced effective models to tailor and evolve such DL initiatives.

Many initiatives rely on the involvement of voluntary help from different people and organisation to help support minority groups in gaining digital literacy. For such initiatives it is important to involve stakeholders who can attract these voluntary contributions. This could be in the form of an IT sector organisation helping to attract contributions in the form of

equipment or software. It could also be a senior citizens' association that create links to schools where pupils would like to teach elderly people how to use a mobile telephone.

- **To which extent are DL initiatives part of an overall strategy for information society development? What is the evidence of the impacts of a strategic approach on results and impacts of initiatives?**

At present, it is difficult to determine the exact extent to which individual initiatives flow from the comprehensive government strategies for information society development that are present in practically all the European countries. However, it seems reasonable to infer that the large share of national DL initiatives and at least some of the regional DL initiatives find their roots in national and/or European policies (such as the Riga Declaration and Lisbon Agenda) concerning the Information Society.

But even so, it is still difficult to ascertain how deep or encompassing the national strategies actually are beyond the very general intention to create an "Information Society for All", which regularly appears in such documents. At one extreme, the point of departure for some countries is still large-scale infrastructure improvements and provision of equipment and skills to the population taken as a whole with no or only limited focus on the special needs of disadvantaged groups (at least beyond enforcing recognized web standards on official government home pages). At the other extreme, some countries have by and large abandoned the concept of accessibility (at least in terms of large-scale rollout) to focus more on enhancing the user friendliness and relevance of learning material and activities in relation to specific target groups.

Nevertheless, future strategies and policies will have to consider both accessibility and usability when preparing initiatives and especially initiatives targeted at disadvantaged groups. Therefore, the next phase will emphasise analysis of initiatives that have created a strong link between the learning of DL and the use of DL and be based on the needs, preferences and access possibilities of specific target audiences.

- **Looking at the overall landscape of DL initiatives, which (potential) overlaps, synergies, and gaps can be identified, and what are the (potential) implications?**

In a historical perspective, the notion of a digital divide initially was related to the disparity between those who could afford to buy computers and subscribe to Internet connections and those who could not afford the same privileges – to the gap between "the haves" and "the have not's" in a very technological sense. Then attention turned to the realization that possession of the technology in itself did not automatically imply the ability to use it – that beyond technology people also needed the proper competencies. DL policies clearly have emulated this shift in focus: from the rollout of infrastructure and subsidisation of computer purchases to teaching and certifying basic computer skills to the apparent efforts at present to incorporate the many new Internet possibilities into learning modules making DL courses resemble everyday situations.

The latter development might well be viewed not simply as a natural update of previous computer courses, but equally as a consequence of a renewed focus on the motivational aspects of technology use and simultaneously on the incentives for learning DL. Like with the

provision of technology, an understanding is now emerging that offering the proper competencies does not automatically make people want to use them, and hence make people want to put in the time to acquire them, if they do not see the purpose of doing so. This emerging understanding of the potential importance of personal values and priorities for both motivation and ability is closely paralleled by an emerging understanding of the potential importance of cultural values for the use of technology as far as it relates to the different abilities and motivation of, for instance, immigrant groups of various nationalities (or women from disparate ethnic minorities).

At the same time, however, it is clear that there are significant differences within the European Union as to where the individual countries are at in their digital literacy development and what they have been focusing on during the period from 2000 to today.

Some countries primarily in the new member states and in the old member states at the lower end of the aggregate i2010 indicator ratio have been focusing more on infrastructure and DL development for the population at large, whereas countries at the top level of the aggregate i2010 indicator ratio have had more opportunities to focus on specific initiatives aimed at minority groups.

There are significant overlaps within and across countries in terms of the focus on ECDL (standard) type DL programmes aimed at unemployed, elderly and especially educational institutions and the introduction of network infrastructure. However, there are very few examples of initiatives where experience and methods have been transferred from one country to another. Furthermore, there is evidence that these standard course initiatives have led to certifications, diplomas and competence, but there is little evidence as to how these initiatives have impacted on the actual use of information and communication technologies. In the next phase we will seek to address the issues of how gaining DL skills has impacted on the daily lives of these citizens – taking into account also the specific circumstances of minority groups.

Synergies have primarily been exploited in large scale national projects providing standard courses to the population at large, people in or preparing for ICT use at work and aimed at the educational community (teachers and pupils/students). One hypothesis to be tested in the next phase will be to what extent there are unexploited opportunities for synergies across initiatives within countries and across borders in Europe. Furthermore, to what extent such synergies can be transferred from addressing one target group to addressing others.

There are significant gaps in terms of knowledge as to which types of initiatives have a strong impact on particular target audiences and successfully achieve their objectives and which ones have less of an impact. Very few initiatives have evaluation as an intrinsic part of the project and therefore do not contribute much to our knowledge about what works and what does not work and why some individuals take part and others do not. The implication for future initiatives could be that stakeholders simply continue to construct DL initiatives in the same way as they did previously not benefiting from the experience and potential user feedback from earlier initiatives. In order to extract knowledge about what motivates people to get involved and how it impacts the lives of people, it will be important to gather and analyse feedback from real users in the next phase.