



Financial and fiscal incentives for e-skills in Europe



This study was funded by



European Commission
Enterprise and Industry

Preface

About the study

This study, which was aimed at “investigating appropriate financial and fiscal incentives, in full respect of State aid rules, related to e-skills training, especially for SMEs, and studying the potential of a human capital investment tax credit for individuals” is one in the series of actions launched by the European Commission in responding to the policy of the European Union to present a long-term e-skills agenda for Europe.

This particular study was commissioned by the Directorate-General for Enterprise and Industry in January 2009 with the intention of obtaining in-depth and accurate information as regards current situation on this issue. The project set out principally to find out more about the various available incentives; how effectively and efficiently they are being applied; who are the beneficiaries; who are the providers; what impacts (and potential impacts) are being generated; and which are the best adapted incentives. The study was expected to make recommendations on appropriate incentives and how such incentives should be best targeted for maximum impact. Special attention was to be paid to the needs of SMEs.

The study covered 32 European countries, which included all the 27 EU Member States.

Taking account of the reality and practicality of the incentive-types, the limiting factors affecting the availability of initiatives, and their motivational impacts of the incentives, the study proposed a set of six best-practice incentives.

The study concluded in November 2009 and its final report was presented in December 2009.

In this brochure, highlights of the project findings and recommendations are presented. More detailed information could be obtained from the final report itself which can be downloaded from the project website at: www.e-skills-funding.eu

The brochure

This brochure was prepared by EU-RA (European Research Associates) on behalf of the study team consisting of EU-RA, EUROPEAN DYNAMICS, CERIC of the University of Leeds, and it is one of the main deliverables of the contract with the European Commission.

Production

Editor: Dean Jonathan Gregory, European Research Associates, Luxembourg

Design & Layout: EUROPEAN DYNAMICS SA, Greece

Disclaimer

Neither the European Commission nor any person acting on behalf of the Commission is responsible for the use which might be made of the information contained in this brochure. The views expressed are those of the authors and do not necessarily reflect those of the European Commission. Nothing in this brochure implies or expresses a warranty of any kind.

© European Communities, 2010

Reproduction is authorised provided the source is acknowledged.



Foreword



Costas Andropoulos

Head of Unit: ICT for Competitiveness
and Innovation
Innovation Policy Directorate
Directorate-General Enterprise and
Industry
European Commission

The European Union needs to ensure that the knowledge, skills, competence and creativity of the European workforce – including its ICT practitioners – meet the highest global standard and are constantly updated in a process of effective lifelong learning.

The European Commission adopted in September 2007 a Communication on “e-Skills for the 21st Century” presenting a long term e-skills agenda¹ for Europe and including key action lines at EU level. The Competitiveness Council of Ministers welcomed this Communication and adopted Conclusions on a long term e-skills strategy at its meeting on 22-23 November 2007. Stakeholders also welcomed this initiative and have established the e-Skills Industry Leadership Board to contribute to implementing the strategy.

To take full advantage of the strategic and operational opportunities offered by information and communication technologies (ICT), it is clear that more and better qualified ICT practitioners as well as e-skilled managers and citizens are needed. The e-skills strategy has progressed with several visible achievements and the “European e-Skills Conference” which took place on 20 November 2009 in Brussels delivered some very welcome messages of encouragement in today’s challenging times. Europe is increasingly developing its human capital to be globally competitive and is making significant progress towards the important goal of implementing a long-term e-skills strategy.

The European Union must remain an attractive place to live and do business. To this end it is necessary to continue to work at providing a rich science and technology environment and the availability of a breadth and depth of skilled labour force performing well in the latest technologies. This study provides the first comprehensive overview of financial and fiscal incentives for e-skills in Europe. It is particularly interesting because there is a need to better align funding instruments with the objectives of policy initiatives at all levels.

1. http://ec.europa.eu/enterprise/sectors/ict/e-skills/index_en.htm

Funding e-skills is investing in economic growth and development

E-skills shortages, gaps and mismatches as well as a persistent digital divide will adversely affect productivity growth, competitiveness, employment and social cohesion in Europe. As ICT is developing rapidly, e-skills are increasingly becoming important and need to be constantly updated. Improving the availability of e-skills involves actions both at European and national level, in several areas, including education and training, industrial and labour policies and also in other domains such as immigration, taxation and research. Financial and fiscal incentives are essential in encouraging and promoting the needed e-skills development especially among ICT practitioners.

The creation of a European e-Skills Forum of stakeholders was a significant step. Its objective of fostering an open dialogue between all relevant stakeholders and as catalyst actions with a view to helping to narrow the e-skills gap, and to address e-skills mismatches, was laudable. The synthesis report: "e-Skills for Europe: Towards 2010 and Beyond" presented a shared vision of the problem and of the challenges ahead and proposes priority actions to be launched at both European Union and country levels.

It proposed:

- Developing a long-term strategic approach to the ICT sector;
- Improving planning and data availability about the ICT labour market;
- Promoting European e-skills multi-stakeholder partnerships;
- Designing innovative e-skills training solutions;
- Supporting the development of a European e-Skills meta-framework;
- Fostering e-skills for the workforce and the population at large.

The Communication on "e-skills for the 21st Century: Fostering competitiveness, growth and jobs" included a long-term e-skills agenda for Europe and action lines, including one that required "Investigating appropriate financial and fiscal incentives, in full respect of State aid rules, related to e-skills training, especially for SMEs, and studying the potential of a human capital investment tax credit for individuals".

Appropriate and effective funding of e-skills training is essential to ensure the right stock and flow of ICT practitioners needed by the European industry especially by SMEs. It is the only way to reduce e-skills shortages, gaps and mismatches.

Using incentives is one effective way to motivate individuals as well as enterprises to forgo other options opened to them and instead pursue the enhancement of their e-skills. To be effective, such tools must be well adapted and should address the issues of interest to the promoters as well as the beneficiaries.

Initiatives must be based on the right type of incentives. They must be well-targeted at the right people and must be well funded and well managed. Benefits should be interesting enough to motivate potential participants, and yet not too generous as to result in wastages. In any event, considering the fact that resources are nearly always limited while the needs are limitless, the need to get the maximum out of the investment in e-skills development is as important for the national governments as it is for the enterprises.



Daniela Busuttil Dougall
Strategy Execution Office,
Malta Information Technology Agency

The application of Information and Communication Technologies (ICT) in the public and private sector is leading to valuable career opportunities, which can only be harnessed if access to ICT knowledge is open to all those that are willing to learn and to continually update their skills. The availability of adequate ICT human resources is government's utmost priority in the effort to make Malta a centre of ICT excellence. myPotential is an important partnership between Government and leading private ICT training providers that will increase the availability of highly skilled ICT human resources. It is the programme that will continue to ensure that Malta keeps its comparative advantage and continues to attract the right kind of industry.

Who are the beneficiaries of the incentives

The study found that financial and fiscal incentives for developing the skills of ICT practitioners are targeted at either the enterprise or at the individual, and some incentives are targeted at both enterprises and individuals.

The individual recipients include:

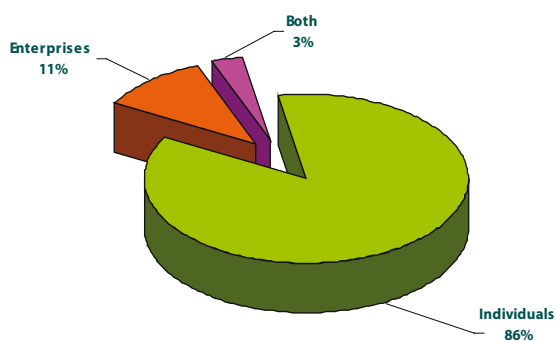
- Students still in education and being specifically trained in ICT (to include Initial vocational training, and higher education);
- Unemployed ICT practitioners who need to upgrade their skills;
- Unemployed persons who are being trained to pursue a career in the ICT profession;
- Career changers (who wish to embark on a career in ICT), and
- Persons employed as ICT practitioners who need to develop/upgrade their skills.

The corporate recipients are mostly small and medium-sized enterprises.

Most of the initiatives that the study identified are targeted at individuals as the main beneficiaries of the funding. In fact, 86% of them are in this class while only 11% are targeted at enterprises.

This would suggest that greater emphasis is placed on providing financial support to the individual rather than the enterprise in all countries. This would also explain why the majority of incentives identified were either training grants and/or fully or partially subsidised training courses (77%).

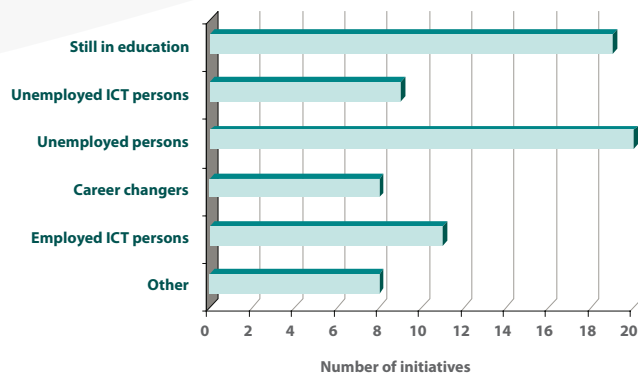
Beneficiaries of ICT practitioner training incentives broken down by type



Source: EU-RA (European Research Associates)

For the incentives in which the financial beneficiaries are the individuals, the majority of initiatives are targeted at those who are still in education (19 initiatives) and those who are unemployed (20 initiatives). It is interesting to note that out of the 61 initiatives identified, only 9 were targeted at unemployed ICT practitioners. This indicates that greater emphasis is placed on training those persons embarking on an ICT career, who are still in education and those who are unemployed, irrespective of their educational/career background.

Individual beneficiaries of ICT practitioner training incentives



Source: EU-RA (European Research Associates)

There is evidence that suggests that most incentives are targeted at persons who are undertaking entry-level ICT training. This suggests that financial/fiscal incentives are mainly targeted at younger age groups and not at persons over 50 years of age. This is attested by a number of initiatives offering scholarships for studying ICT related subjects at higher education level.



Clear policy on e-skills development is important

There is a clear and strong correlation between the actions taken by the national government to develop e-skills coupled with the practical steps to implement the development and the level of activities related to ICT training. A clear indication of the commitment of any national, regional or local administration to the development of e-skills is the presence (or otherwise) of a policy specifically designed for this purpose. In the European Union, there are varying levels of observed commitment to training of ICT practitioners. Naturally, countries in which little or no attention is paid to training, present very low level as far as policy is concerned and manifest in the very few or total lack of concrete initiatives even in the private sector.

In general, all EU Member States, and indeed the various other European countries covered by the study, recognise the importance of human capital development. They all have policies aimed at ensuring that the right quality and quantity of skills are assured within the economy. Nevertheless, the priorities differ significantly when it comes down to which sort of skill is needed (or promoted) the most, and what skills development appears to need more intervention of the state through the use of financial and fiscal incentives.

At the European Union level, there is a well defined policy for the encouragement of development of e-skills for practitioners. The situation in this respect differs significantly in the various countries. Most countries have a policy towards the development of e-skills. In some, such as in Luxembourg, this is embedded in continuing vocational training policy. There are some countries where no policy exists on this issue. Even where policies do exist, priorities (between the different types of ICT skills) vary between countries. The three areas of emphasis are ICT practitioner skills, basic user skills, and e-business skills.

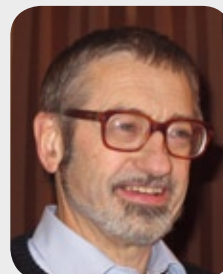
National ICT policies tend to focus on developing basic ICT user skills. The development of ICT practitioner skills is generally considered to be part of continuing vocational training policy. Thus, it can be concluded that while the development of ICT practitioner skills is not explicitly stated in national policy it is intrinsically included in the continuing vocational policy of the country.

Our study found that nine countries have policies which are aimed at development of e-Business skills. Twenty six countries have policies designed for e-skills for users, while only eleven countries Denmark, France, Germany, Hungary, Ireland, Malta, Spain, Portugal, Romania, United Kingdom and Turkey have policies that are specifically aimed at the development of ICT skills of practitioners.

The study found a number of reasons why in many cases, national policies are rather weak towards the development of ICT practitioner skills. Obviously these reasons are fairly influenced by national economic and political factors and will consequently vary between countries.

The key reasons found are that:

- ICT practitioner skills are not considered as a priority within the human capital development plans;
- ICT practitioner skills are considered as important, but are treated within the context of Continuing Vocational Training (CVT) policy;
- Development of basic ICT skills is more important to the economy and society;
- ICT infrastructure is not highly developed enough to require a large pool of practitioners.



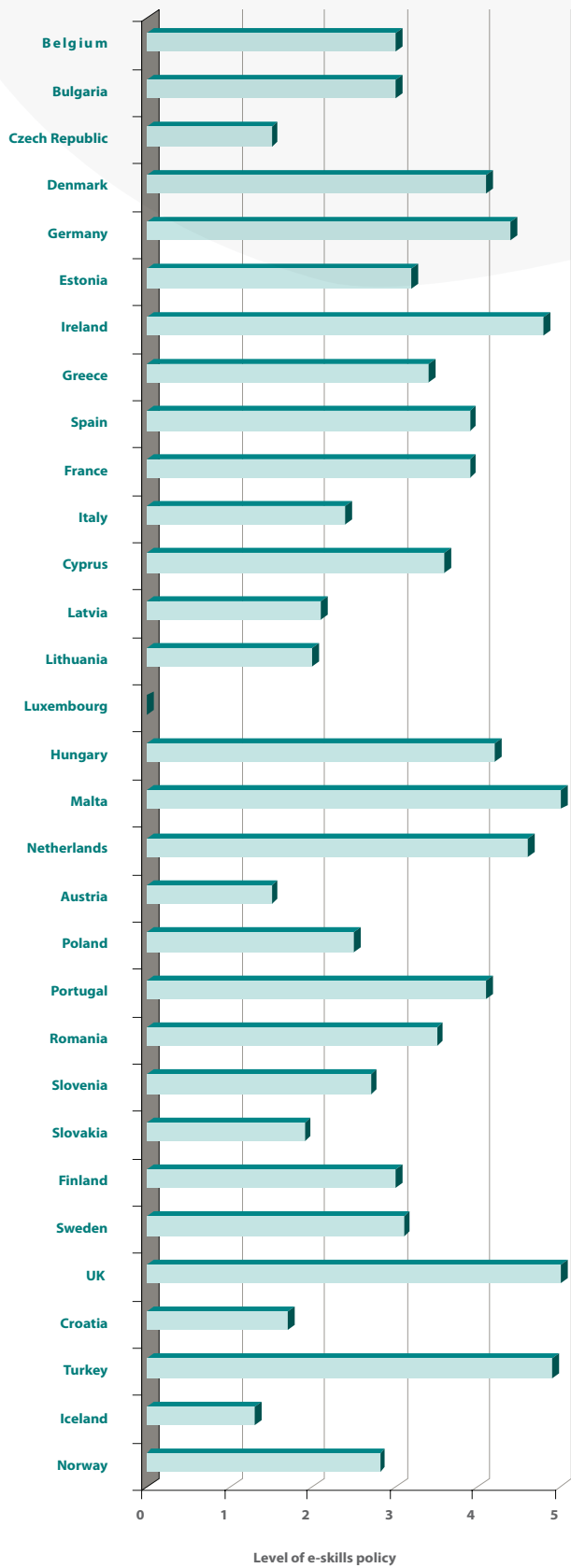
Christian Huveneers
Vice-chairman of the Belgian
Competition Council

European industrial policies should bear in mind that e-skills are needed in all industries and sectors of the European economy and not only in the IT industry because technical progress originating from ICT and e-business is not only embodied in the IT industry but is also conducive of productivity growth through all IT-using industries: the adoption of ICT impacts the firms' internal organization, specifically upskilling of the workforce and electronic communication of information between firms' different departments. ICT and e-business also foster product innovation.

One of the main factors impeding a further diffusion of ICT technology and e-Business is the lack of e-skills within companies and the cost of training in ICT.

The graph on the following page shows the level of intensity of e-skills policy in each country (graded between 0 for absence of any policy to 5 for very high commitment).

Intensity of e-skills policy in Europe



Source: EU-RA (European Research Associates)



General attitudes of employers to training of their ICT practitioners



Statistical evidence suggests that a large percentage of enterprises are not training their ICT personnel. Consequently, the large majority of incentives are targeted at individuals rather than enterprises. For example, from the last available data (2007), only 13% of incentives identified were targeted at enterprises. While there is a lack of specifically designed incentives targeted at enterprises, there are many general incentives that an enterprise could benefit from in order to train its ICT personal. The growing importance of the ICT practitioners in the enterprise is very evident.

Statistics also show that 16% of small and medium sized enterprises in the EU-27 employed ICT/IT specialists in 2007. In the majority of countries, the percentage of enterprises which employed ICT/IT specialists was less than the EU average. In some of these countries the figure was less than 5 percent of enterprises.

11% of these enterprises provided training for their ICT/IT specialists.

Considering that the use of ICT in industry is constantly advancing technologically, meaning that the skills of its practitioners need to be constantly upgraded along with the changes, there is a suspicion that enterprises tend to rely on employees to develop/upgrade their ICT skills on their own initiatives or prefer to hire employees with the skills already needed for the job. So, what are the reasons advanced by enterprises for not training their staff?

The reasons most frequently advanced are that:

- the courses are too expensive;
- there is lack of suitable courses available; or
- that staff have been recruited with the right skills and competencies for the job

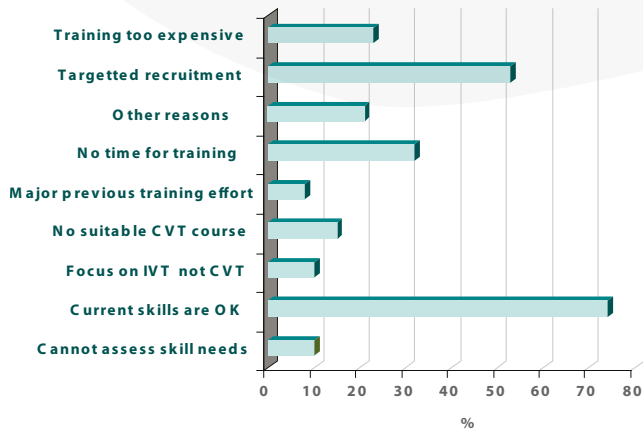
When the question was posed directly to the enterprises, most responded that:

- The existing skills and competences of the persons employed corresponded to the needs of enterprise;
- The preferred strategy of the enterprise was to recruit individuals with the required skills and competences;
- Difficulties in assessing the enterprise's continuing vocational training (CVT) needs;
- The lack of suitable CVT courses in the market;
- The high costs of CVT courses;
- A higher focus on initial vocational training (IVT) than CVT;
- A major training effort had been realised in a previous year;
- The high workload and limited available time of persons employed;
- Other reasons.

Yet, there is an evidence of active "free-riding" on the part of the enterprises. This is the situation in which rather than train their own staff, enterprises simply poached a better trained staff from another enterprise.

Why so many employers are not training their staff

Reasons why enterprises do not provide CVT training to their employees (as percentage of all EU-27 enterprises in 2005)



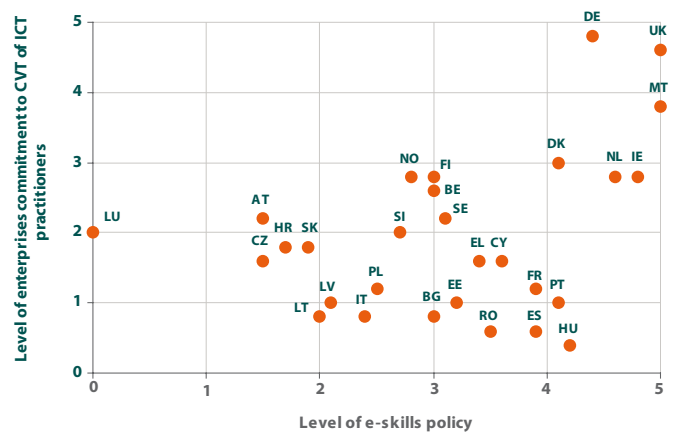
Data refer to enterprises with 10 or more employees belonging to NACE categories C_TO_K_O

Source: EUROSTAT

In countries with a well-developed e-skills policy aimed at ICT users and practitioners, a greater percentage of enterprises are engaged in training their ICT practitioners. Nevertheless, the picture is not straightforward as in some countries, which have a higher level of e-skills policy, the level of enterprises commitment to providing training for ICT practitioners is low. This is particularly the case in Hungary, Portugal, France, Spain Cyprus, and Romania. While some countries (e.g. Belgium, Finland, and Norway) which have a medium level of commitment (levels 2 to 3) have demonstrated higher levels of enterprises commitment to training their ICT practitioners. This level of commitment is on a par with some countries that have higher levels of e-skills policy (e.g. Denmark, Netherlands and Ireland).



Level of enterprises commitment to CVT of ICT practitioners versus level of e-skills policy



Source: EU-RA (European Research Associates)



Juan Bossicard

EUGA Program Manager - Microsoft Corporation

Large scale initiatives are required to respond to the persistent need of re-training ICT practitioners in Europe. Microsoft, together with industry partners has identified ways to incent access to funding for the up-skilling of SMEs and the broader workforce. We see that technology coupled together with local advisory guidance, local clusters and administrative support can make the difference. We have experienced the impact of such incentives through the EUGA program which holds a success rate of over 80% of submitted grants. We invest in these programs because we are convinced of the urgency to upgrade the skills for Europe's innovation.

Forms of incentives used to motivate beneficiaries



A key question that underlies the issue of motivating beneficiaries is: What is an incentive and what purpose do they serve?

In economics and sociology, an incentive is defined as any factor (financial or non-financial) that enables or motivates a particular course of action, or counts as a reason for preferring one choice to the alternatives.

One could then say that: An incentive is a benefit that confers economic well-being and opportunity.

The term fiscal pertains to the public treasury or revenues, while financial generally pertains to monetary receipts and expenditures.

Our analyses were based on these premises, and we found that most of the incentives are in the form of:

- **Grant:** This is intended to cover payment for tuition fees, and other charges, and sometimes includes subsidy for living expenses.
- **Course subsidy:** This refers to courses which are either fully or partially subsidised. In the case of fully subsidised courses, the participant does not pay any tuition fees. However, in the case of partially subsidised courses, the participant may have to make a contribution of anything from 1% to 99% of the cost of the course. This is offered to reduce cost of the training course.
- **Loan:** This helps to defer and/or reduce incidence of the cost of the training.
- **Training vouchers:** This is offered to reduce overall cost of the training. Financial support in form of ILAs or vouchers can be provided for individuals and also for SMEs.
- **Cost reimbursement:** are payments that reimburse the recipient in whole or in part for certified expenditure on specified education and training. It acts more like a grant (except that it is deferred).
- **Reduced social contribution:** are full or partial exemptions to obligatory social contributions.

- **Tax incentives:** Tax policy can influence both the economic incentive to invest in training and the availability of the financial means for such investment, as well as serving as a mechanism for sharing financial responsibilities among different stake-holders.
- **Others:** These come in various forms or as combination of one or two the above.

Financial incentives are by far more prevalent and more popular than fiscal incentives

While financial incentives could be offered by either government or private bodies, (including the enterprise and vendors), or jointly by both, fiscal incentives can only result from the intervention of the state.

Not surprisingly, initiatives which offer financial incentives are a lot more common than those offering fiscal incentives. Only one key initiative of fiscal nature was found specifically targeted at ICT practitioner skills.

There are nevertheless fiscal incentives for general CVTs within which e-skills are not given any special treatment.

All the types of financial and fiscal incentives can be targeted at different types of ICT practitioner training

All of the incentives identified can be targeted at different types of ICT practitioner training from entry-level courses to more advanced courses. Incentives can also be adapted to courses of different duration (short to long).

Training grants and course subsidies are by far the most favoured forms of financial incentives provided

Six incentive types are classed under financial incentives. These are grants, course subsidies, training loans, training vouchers, cost reimbursements, and reduced social contributions. Fiscal incentives are mostly tax benefits.

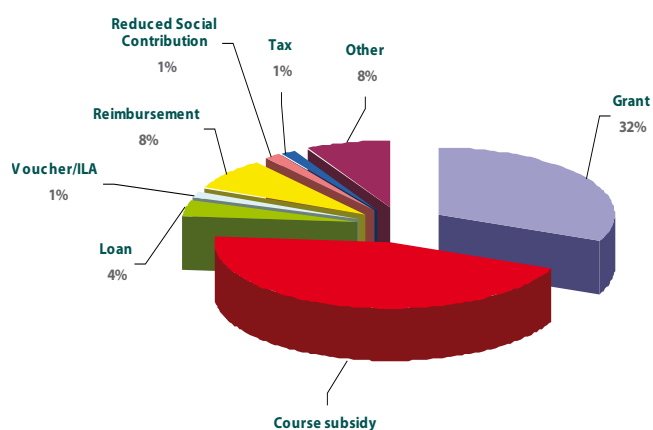
It was observed that the majority of initiatives offering financial/fiscal incentives gave some form of training grant and/or course subsidies. Training grants and course subsidies are more often than not associated with individuals whereas reimbursements are associated with enterprises.

Reducing social contributions or giving of training vouchers are not popular for encouraging development of ICT practitioner skills. Tax incentives, have not been of much use either.

Most financial and fiscal incentives identified can be targeted at ICT practitioners

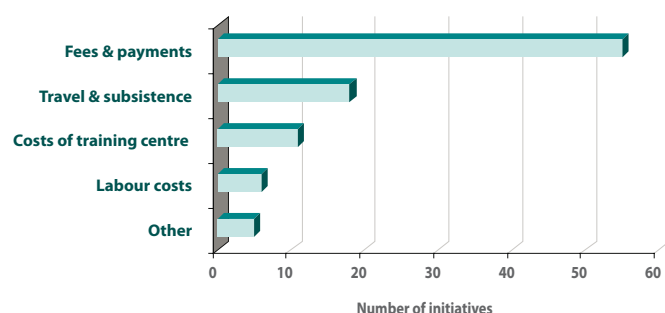
Nearly all of the incentives identified can be specifically targeted at ICT practitioners. The only exception of an incentive that is not well adapted for this purpose is educational leave. This is a general incentive, available in many EU countries, which ICT practitioners can take advantage of like any other person. Nevertheless, it is a fact that ICT practitioners rarely go away on long study leaves dedicated to skills development.

Financial/Fiscal incentives offered for ICT practitioner training broken down by type as a percentage of all incentives



Source: EU-RA (European Research Associates)

Type of financial expenses covered by incentives



Source: EU-RA (European Research Associates)

Financial and fiscal incentives can be used to cover the following financial expenses of education and training:

Fees and payments for courses: payments made to training organisations. These include course fees, costs of assessors and examiners and any other form of support needed;

Travel and subsistence payments: payments made in relation to travel and subsistence of participants engaged in the training course;

Costs of training centre, training premises, teaching materials this is where the training takes place. This includes annual depreciation for rooms and equipment, running costs for training centre or other premises and costs of materials bought specifically for the courses;

Labour costs of internal trainers in an enterprise labour costs of training centre's own staff and other staff that are engaged in designing and managing the course;

It was observed that the majority of incentives intended to cover fees and payments for courses. Examining the financial coverage of the incentives offered it was found that 55 initiatives out of 61 initiatives identified (90%) contained incentives, which intended to cover the fees and payments for courses.

This is in contrast to only 18 initiatives (30%) out of 61 initiatives that had incentives to cover payments made in relation to travel and subsistence of course participants. Financial incentives associated with these two types of education and training expenses are normally associated with payments to the individual.

The education and training expenses, which are normally associated with the enterprise, are the costs of training centres and the labour costs of internal trainers in an enterprise. Only 11 initiatives (18%) have incentives that cover the financial expenses of training centres and 6 initiatives (10%) have incentives that cover labour costs.



Hugo Lueders

Senior Director of the "Computing Technology Industry Association"

Digital literacy and media literacy as well as professional e-skills are crucial enablers that allow EU citizens to exploit the full potential of the information society.

As the global economy becomes increasingly ICT-embedded, digital illiteracy as well as lack of professional e-skills substantially reduces productivity and the possibilities of the European citizens and workforce to actively participate in the labour market.

Motivation is the key to successful take up of initiatives



However interesting an incentive appears to be, the individual at which it is targeted would still need to be persuaded that it is worth the while to take it up.

The success of an incentive could be measured in terms of its ability to achieve the goal of motivating those within the group to which results are expected. The question then is: what does it take to motivate unemployed, career-changers, students who wish to pursue an ICT career or, progress-bound current ICT practitioners to take up initiative of incentives that are on offer?

Setting out to explore the factors that appeared to be central in influencing an individual to take up an incentive, one could pose the question the other way round: What could be the reasons for lack of interest in taking up offered incentives?

Opportunity costs

Individual who could have earned money or spent the time enjoying their leisure during a particular period, but choose to spend the time on education and training forego earnings and leisure time. Certain people might be reluctant to give up their free time outside working hours in order to engage in training.

Psychic costs

These are costs associated with attending college and include the stress, anxiety, and sometimes boredom associated with classes, exams, assignments, papers, etc.

Fear of job security on the part of employed workers who take time off work

Employed people are a lot more careful about their jobs in times of high unemployment. An employed person may wish to engage in training on his/her own initiative. However, the fear of job security may influence his/her decision to take up the incentive.

Type of the incentive

Each incentive identified offers different financial rewards. Some of these rewards may only be free courses, while others will be actual monetary awards. Therefore it can be the case some types of incentive will be more attractive than others.

Geographical location

For example, an individual who lives in a remote rural area may not have the same access to suitable training courses as an individual living in a city/town. Therefore, no matter what type of incentive is proposed, the level of take-up will be lower in the remote rural areas.

Lack of suitable courses on the market

If there are a lack of suitable courses on the market, then no matter what type of incentive is offered, there will inevitably be a low take-up of the incentive.

Financial burden imposed on individuals due to the nature of the incentive

Some incentives in the short-term can actually impose a financial expense on the individual. For example, tax credits on training are not given to individuals until after the end of the tax year, when returns are made. Therefore, the individual has to devote some of his/her own resources to the incentive.

Level of subsidy

Some subsidised courses require a payment on the part of individuals of varying proportions. The proportions that have to be co-financed by an individual may vary from 1 to 99 per cent of the total costs of the course. The higher the proportion that the beneficiary has to contribute, the less interesting the incentive is, and the lower the motivation and consequently, the take-up.

Employers need to be motivated too

A number of incentives are targeted at the enterprise rather than an individual. Like their employees, employers also have a number of factors that might have significant effect on the attractiveness of an incentive. This might be more so for small and medium-sized enterprises. The following factors may have adverse affect on the take-up of a particular incentive by enterprises.

Enterprise policy on training

In some enterprises training policy is focussed on initial vocational training (IVT) rather than continuing vocational training (CVT). Some enterprises do not engage in any form of training for their employees for one reason or another. An enterprise might for example have difficulties in assessing its needs with respect to its employees' skills training.

An enterprise might also prefer to recruit individuals with the required skills and the competences, instead of spending financial resources on upgrading the skills of its employees.

Opportunity costs

An employer who gives its staff time off to participate in education and training for example, foregoes the contributions which the employee would have made to production of goods or services while attending the course.

Administrative burden imposed on enterprises

Some incentives require investment in time on the part of the enterprise in order to ensure that all the paperwork that is needed to apply for the incentive has been completed. In the case of very small enterprises the time that may have to be spent may have a disincentive effect if the size of the incentive is not sufficient enough to justify the time spent on applying.

Complexity of some tax systems may also be a disincentive

This can have a very big impact upon the take-up of tax incentives.

Geographical location

For example, an enterprise located in a remote rural area may not have the same access to suitable training courses as an enterprise located in a city/town. Therefore, no matter what type of incentive is proposed, the level of take-up will be low in the remote rural areas.

Lack of suitable courses on the market

If there are a lack of suitable courses on the market, then no matter what type of incentive is offered, there will inevitably be a low take-up of the incentive.



Financial burden imposed on enterprises due to the nature of the incentive

Some incentives in the short-term can actually impose a financial expense on the enterprise for which it was designed to help. For example, tax credits on training are not given to enterprises until after the end of the tax year, when returns are made. Therefore, the enterprise has to devote some of its resources to the incentive. In the case of very small enterprises this can actually act as a disincentive. The same is true for reimbursements.

Level of subsidy

Some subsidised courses require a payment on the part of the enterprise of varying proportions. The proportions that have to be co-financed by the enterprise may vary from anything in the region of 1 to 99 per cent of the total costs of the course. A course that only has a 5 per cent subsidy will not generate the same take-up by enterprises as a course which is 75 per cent subsidised. This means that for a 5 per cent subsidised course, the enterprise has to pay 95 per cent of the total costs of the course, which may not be enough of an incentive for some enterprises, especially micro-enterprises.

If the amount that has to be co-financed by the enterprise is too high, or in other words above a certain reservation subsidy rate of X per cent then the enterprise will not take up the subsidised course, no matter how important the training is to the enterprise. Each enterprise will have a cut-off point, after which the incentive is not attractive to them. The reservation subsidy rate for each enterprise will be dependent upon many factors including: budgeted financial resources available for training, foregone production, size of enterprise etc.

Assessing the best practice incentives

An important aspect of this study was to carry out an in-depth analysis with a view to identifying the best forms of incentives and the good practice initiatives that have resulted from them and made available to beneficiaries, both enterprises and individuals. Within this scope, we appraised the strength and weaknesses, merits and demerits of each incentive type. This appraisal entailed among others, looking at issues of efficiency and effectiveness of the incentives as well as their adaptability – in the form of their scalability, sustainability and transferability. By combining all these traits, it was possible to identify the most appropriate incentives and best practice initiatives within the frame.

In principle, given the right socio-economic environment, all incentives that were identified are good and have their merits. Some are, by the nature of their components, more adaptable to funding e-skills development than others. Yet, in making recommendations that would be of any meaningful value to Europe, it was necessary to ensure that pragmatism and realism played some roles. The study found that some incentives which could theoretically be considered as “good” within this context did not appear to have met with favour from either the providers or the beneficiaries. There were no examples of practical initiatives derived out of such incentives that were implemented.

A good incentive would be defined as one which has the following qualities.

- It should be cost effective and the returns from the input should be reasonable – i.e. the levels of both internal and external effectiveness should be high enough.
- It should demonstrate a high level of internal as well as external efficiency and should be capable of being targeted to address the needs.
- It should be scalable in order to be able to target the desired level of support and involvement of the promoters of the incentive.
- To assure its continuity, there should be a reasonable level of sustainability. This implies that the source of the funds used to promote the incentive should have a reasonably long lifespan while the incentive itself is not so cumbersome in a way that it might become too heavy a burden for the promoter to support on a long term basis. Incentives that are not sustainable would invariably produce initiatives of ad-hoc nature – they are generally of little use, except they are used to address specific targeted shortfall in skills demand.

Incentive types	Ranking
Financial Incentives	
Subsidised courses	1
Cost reimbursement	2
Educational/training loans	3
Training grant	4
Training vouchers/Individual Learning Accounts	5
Educational Leave schemes	6
Fiscal Incentives	
Tax incentives for employers	1
Human Capital Investment Tax Credits	2
Tax incentives for individuals	3
Reduced Social Contributions	4

The results show that as far as financial incentives are concerned, subsidising training courses and reimbursing the cost (either in part or in whole) of training expenses are the best forms of incentives.

The least on this score would be that which provides educational leaves or gives training vouchers or creates individual learning accounts.

For fiscal incentives, providing tax breaks for the enterprises in respect of the training cost incurred is the best incentive. The least adapted fiscal incentives would be reducing social contributions on the basis of training that is undertaken.

As earlier noted, being the best practice should not be mixed up with being the most popular either among the beneficiaries or the providers. An incentive type that appears to be unpopular and from which no known initiative was found, no matter how highly it ranks on the league of good incentives would be of no useful practical purpose. Our notion of best practice initiative implies the best intervention. We had to take this into account in proposing incentives to be considered for adopting in Europe.

The results show that as far as financial incentives are concerned, subsidising training courses and reimbursing the cost (either in part or in whole) of training expenses are the best forms of incentives.

The least on this score would be that which provides educational leaves or gives training vouchers or creates individual learning accounts.

For fiscal incentives, providing tax breaks for the enterprises in respect of the training cost incurred is the best incentive. The least adapted fiscal incentives would be reducing social contributions on the basis of training that is undertaken.

As earlier noted, being the best practice should not be mixed up with being the most popular either among the beneficiaries or the providers. An incentive type that appears to be unpopular and from which no known initiative was found, no matter how highly it ranks on the league of good incentives would be of no useful practical purpose. Our notion of best practice initiative implies the best intervention. We had to take this into account in proposing incentives to be considered for adopting in Europe.

Examples of best practice initiatives

A number of initiatives were identified in several European countries based on the different incentive types. Analysis was conducted on these, to identify best practice initiatives.

The guiding principles in this respect are presented below.

The initiative should:

- ideally, result from one of the incentive types with high ratings for efficiency, effectiveness, scalability, and sustainability;
- not contravene in any way, the EU rules on state aids;
- address at least one area of interest/concern to the development of ICT skills;
- be easy to implement, and should preferably;
- not contradict any other initiative.

Additional factors that were taken into account with regards to best practice initiatives were that they should:

- be geared towards meeting the training needs of small and medium enterprises;

- address special groups of interest within the economy such as the 50+ age-group;
- address the central issue of funding e-skills of ICT practitioners in general, while at the same time addressing another important policy issue such as gender imbalance in ICT;
- take account of the needs to address unemployment of the work force, while at the same time aimed at bridging the skills gaps.

An important attribute of any best practice incentive is that it should provide enough motivation to encourage an individual or an enterprise to participate in the scheme without being over-generous in the actual benefits provided.

Country	Name of initiative	Type of incentives
Ireland	FIT Fasttrack to IT	Subsidised courses, Grants
Ireland	Software training- UpSkilling Programmers to Java	Subsidised courses
Malta	Strategic Educational Pathways Scholarships (STEPS)	Grants (Scholarships)
Malta	MyPotential	Subsidised courses, Loans, Reduced Social Contributions, Tax credits
Poland	Academy of Young IT specialises	Subsidised courses
United Kingdom	Ambition Awards Programme	Grants (Scholarships)
Vendor	Google Anita Borg Memorial Scholarship	Grants (Scholarships)



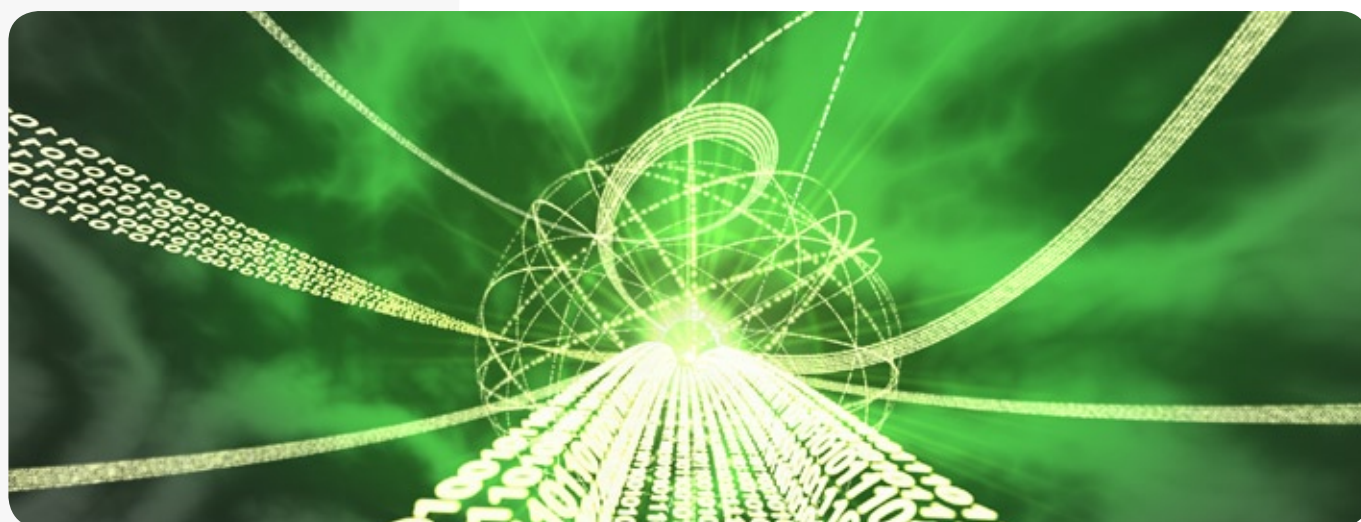
Dr. György Tilesch
Director General, HELB Foundation

As representing the Multi-Stakeholder Partnership which drives the TITAN Program forward, we are convinced of the urgency to tackle Europe's e-skills challenges to raise competitiveness and employability to a level conforming with the rules and requirements of 21st century knowledge economy. In this matter an integrated approach putting SMEs in focus is needed to facilitate the training of both their managers, their IT Pros and their employees in general. A shared political will, dissemination of best practices, and rapid implementation are the keys for Europe to end up on the winning side of the competition awaiting us in the digital economy.

Best Practices

01. Development grants for ICT training

Nature of incentive	This is a financial incentive.
Type of incentive	Training grant
Objective of incentive	To increase the stock of good quality ICT practitioners at entry level by providing training grants to students that merit it and that are specialising in this field at the higher education level.
Benefits granted	Fees and payments for courses.
Granting authority	This could be either public or private. Ideally, should be a multi-stakeholder venture.
Qualifications required	Beneficiaries should be undergraduate or post-graduate students who are pursuing studies in ICT related subjects in higher institutions of learning. Applicants for grants must fulfil the academic requirements needed for the ICT course of study.
Eligibility criteria	<p>This incentive should be open to any EU/EEA citizen resident in an EU Member State, (and citizens of third countries who have attained the status of legal permanent residents in an EU Member State). A citizen of one country studying in another country within the EU should be able to benefit from the incentive.</p> <p>It should be opened to applicants who are in full time or part time training and also in distance learning, It should be opened to all core ICT related topics. Only courses that lead to a diploma should be eligible for support.</p>
Modality	<p>Applicants that qualify for the grant should receive financial support equivalent to minimum 60% and maximum 100% of the total cost of the course fee. Course fee would be defined to include registration fee, tuition and books and other materials.</p> <p>Every beneficiary should be required to undertake to complete the training. It should be agreed that in the event of a beneficiary dropping out of the scheme, the total amount received would be refunded in full.</p>
Quality control mechanism	The grant should be performance-related. For a one-year course, 50% of the benefits should be paid upfront. Payment of the remaining 50% should be subject to successful completion of the course. For longer term courses, benefits should be based on a successful completion of the preceding year. Beneficiaries should also be required to write a report on their progress at the end of every academic year and to submit this report as one of the prerequisite for the continuation of the support.
Current examples	<p>MALTA - Strategic Educational Pathways Scholarships (STEPS)</p> <p>UNITED KINGDOM - Ambition Awards programme</p> <p>VENDOR - The Google Anita Borg Memorial Scholarship</p>



Best Practices

02. Development grants for ICT training

Nature of incentive	This is a financial incentive.
Type of incentive	Subsidised courses
Objective of incentive	To meet labour shortages in specific ICT occupations, while at the same time creating job opportunities for the unemployed and to up-skill unemployed ICT practitioners.
Benefits granted	Courses are either fully or partially subsidised. In the case of partially subsidised courses the amount to be paid by the unemployed person should not exceed 10 - 15% of the total value of the course.
Granting authority	Public or private. Ideally, a multi-stakeholder venture.
Qualifications required	None. However, beneficiaries should be unemployed or receiving income support as designated by national authorities.
Eligibility criteria	This incentive should be open to any EU/EEA citizen resident in an EU Member State, who are either registered as unemployed or in receipt of some form of means-tested income related support.
Modality	<p>For courses which are aimed at meeting labour shortages in specific ICT occupations by reintegrating the unemployed onto the labour market, course is fully subsidised. Subsidy should cover total course costs including a travel allowance. Courses can be full or part-time and should be designed in co-operation with industry and cover all ICT-related subjects at all levels. The course should also include an Industry placement to gain practical experience. Unemployed person should be given a training allowance, in place of unemployment benefits/income support. Thus the training allowance should be at least equal to the previous benefit received. However, it is preferable that an allowance that is greater than this allowance is given.</p> <p>For courses aimed at up-skilling unemployed ICT practitioners, The course can be fully or partially subsidised and is of short duration. In the case of partially subsidised courses the value of the subsidy should be between 85 to 90%. Unemployed maintains their right to unemployment benefit or other benefits.</p>
Quality control mechanism	Every beneficiary should undertake to complete the training. National unemployment benefit penalties should apply to those who drop out of the scheme or fail to attend classes, This could mean that the beneficiary has benefits suspended or even terminated. The element of job search skills and guidance should be introduced and beneficiaries should be regularly monitored. They should be followed up after training completion to determine whether or not they have found employment in ICT.
Current examples	IRELAND - FIT Fastrack to IT and IRELAND - Software Training - UpSkilling Programmers to Java POLAND - Academy of young IT specialists



Johann Steszgal

President of PIN-SME “the Voice of ICT-SMEs in Europe

ICT small enterprises are Europe’s a key factor for the deployment of e-skills among citizens and businesses.

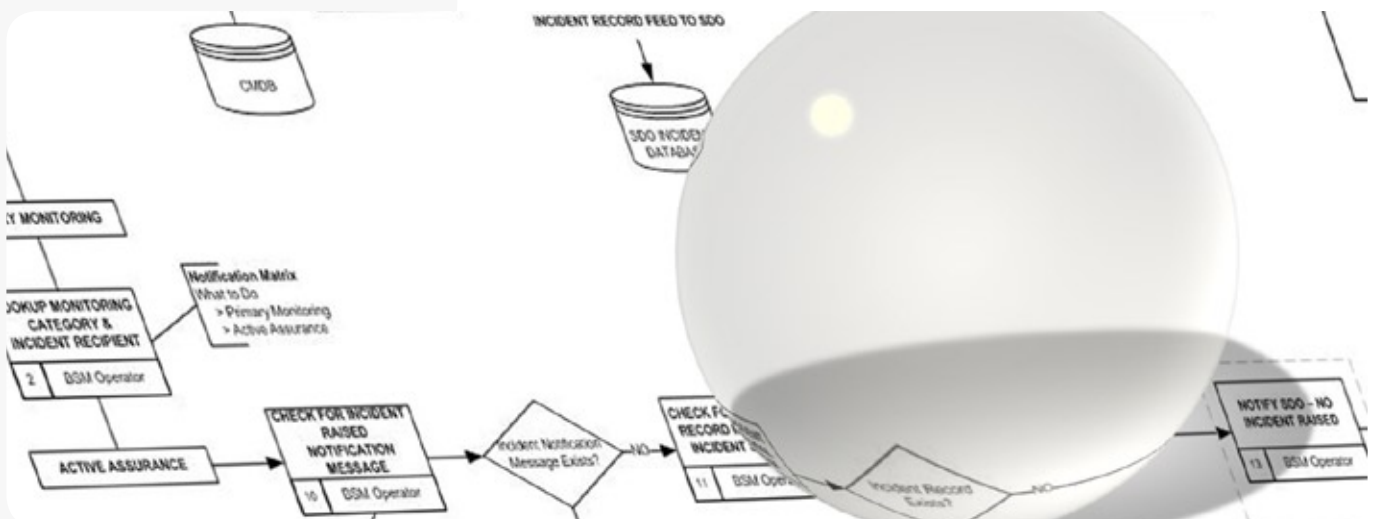
ICT SMEs are widespread in Europe’s territory and regions; they are present in all local communities where they have access to different societal levels. Hence, ICT SMEs are the best vehicle to provide e-skills and ICT trainings to European citizens and businesses.

I believe governments can do a lot to support the uptake of e-skills, especially among small firms. PIN-SME firmly recommends governments to provide fiscal and financial incentives to the micro, small and medium sized enterprises that invest in e-Skills trainings.

Best Practices

03. Training loans for ICT practitioners

Nature of incentive	This is a financial incentive.
Type of incentive	Loans for courses in ICT subjects
Objective of incentive	To increase the affordability of ICT certifications thereby encouraging individuals to take-up a career in ICT.
Benefits granted	A loan at very special preferential terms to finance course and subsistence costs.
Granting authority	Public and private. A multi-stakeholder venture encompassing the financial service sector.
Qualifications required	Accepted on an accredited course in an ICT discipline.
Eligibility criteria	This incentive should be open to any EU/EEA citizen resident in an EU Member State, who has been accepted on an accredited course in an ICT subject.
Modality	<p>The modality adopted should be varied by each country as deemed appropriate but could contain the following elements.</p> <p>The loan should be managed by a designated financial institution that is a partner in the scheme. This institution will be responsible for issuing the credit and receiving the repayments. Loan should be underwritten by the government department responsible or any other agreed agency. Beneficiaries will apply with full details of the course and the financial aspects, to the designated department which will be responsible for approving the loans.</p> <p>Loans should cover between 20% and 100% of the total course costs as well as travel and subsistence – as requested by the beneficial. The loan packages can vary, but they must encompass the following elements: The interest rate is subsidised by the government. The loan will be paid directly at the start of each academic term for courses of duration longer than one year, and at the start of the course for all other courses. Applicant on an eligible course and applying for a maintenance grant qualifies for at least 70% of the maximum loan, regardless of income.</p> <p>The repayment of loans only begins after the beneficiary has completed the course and is earning over a certain threshold. An appropriate repayment schedule should be devised to make repayment as painless and realistic as possible for the beneficiaries. The time taken to repay is based on income and amount borrowed. They should have the option of earlier redemption of the loans. Beneficiaries should repay no more than 10% of their income monthly for the loan.</p>
Quality control mechanism	To ensure good quality and standard of the training, only courses provided by training bodies that have been approved by the national educational authority will be accepted. A student that drops out of a course will repay full loan with interest.
Current examples	MALTA - MyPotential



Best Practices

04. Enterprise tax credits for e-skills

Nature of incentive	This is a financial incentive.
Type of incentive	Paid internship/graduate placement programmes.
Objective of incentive	To offer students and graduates the practical experience they need in industry in order to kick-start their careers as ICT practitioners.
Benefits granted	The student/graduate receives a salary or during the period of placement.
Granting authority	Private (100%). Ideally, large enterprises employing ICT practitioners.
Qualifications required	To qualify, students should be enrolled in an accredited institutions studying ICT subjects, or should be graduates of ICT related subjects who are not in employment.
Eligibility criteria	This incentive should be open to any EU/EEA citizen resident in an EU Member State, who are enrolled in an ICT related subject at the post-secondary education level or have graduated from a ICT related subject in the past two years, but who do not have more than 11 months experience on the ICT labour market.
Modality	<p>The salaries will be paid out directly by the enterprise with which the student/graduate has been placed. Graduates should be paid on a par with entry-level permanent graduate positions in the company, on a pro rata basis. Minimum length of placement is 6 months for graduates. The duration of placement for students will be subject to peculiarities in the course curriculum.</p> <p>The scheme should be managed by consortium headed by a national ICT scientific society. The consortium should also include institutions of higher education. In the case of graduate placement programmes, the scientific society and higher education institutions should host details of all the participating companies, and details of what type of graduates each company requires. Students have to apply directly to the individual company with whom they wish to be placed. Individual companies to manage the recruitment process.</p>
Quality control mechanism	The student/graduate is expected to sign a training contract with the company, and must fulfil all obligations included else the contract is terminated.
Current examples	IRELAND - ICT Internship Programme, Graduate Placement Programmes VENDOR - Student to Business(S2B) Program



Ewa Wadolkowska
EU-RA(European Research Associates)

Indeed, what is urgently needed in Europe is a change of mindset regarding training. In some countries, the attitude is to assume that it is the responsibility of the government to train the workforce. In others, there is the assumption that the enterprise is responsible for the training of its staff, while in many, neither the government nor the enterprise take any responsibility whatsoever for this, leaving it to the employees themselves.

There has to be an acceptance by all the EU Member States, of a mindset based on the European model, of a shared responsibility by the government and the enterprise, and indeed all the other stakeholders. Until that happens, there will continue to be general confusion and uncertainty in the funding of ICT skills development, and indeed the human capital development of the European workforce in general.

Best Practices

05. e-skills Joint Training Funds

Nature of incentive	This is a financial incentive.
Type of incentive	Unclassified financial
Objective of incentive	To assist and enable SMEs (small and medium enterprises) to benefit from good quality ICT practitioner skills development by making available the necessary funds to support training of deserving staff.
Benefits granted	These would be as described for e-skills Development Grants or e-skills Subsidised courses for the unemployed.
Granting authority	The enterprises in partnership with the local or national government. Participation of vendors is desirable but not compulsory.
Qualifications required	As required under the optional support scheme as noted under "Benefits granted".
Eligibility criteria	In the first instance, all participating SMEs would be eligible to propose their staff for training under this scheme. In the second instance, eligibility would be as required under the adopted optional support scheme as noted under "Benefits granted". To be eligible, an unemployed person or one in higher education must be sponsored for the scheme by a participating SME.
Modality	<p>This is, in the strict sense of it, not an incentive for an individual ICT practitioner, but rather an initiative by SMEs to pool their resources together to be able to provide training aimed at developing e-skills in the industry. The scheme should be voluntary and any SME that so wishes should be entitled to participate. A memorandum of understanding should be agreed for this.</p> <p>Under the scheme, a special fund, to be managed centrally, should be set up to use in financing e-skills training. Each participating SME should contribute an agreed percentage of their annual gross payroll to the scheme.</p> <p>For every €2 contributed by the SMEs to the fund, the government (at local regional or national) should contribute at least €1. Additional funds could be contributed on voluntary basis by vendors.</p> <p>In the first instance, funds should be used to organise joint ICT training courses for employees at convenient locations. For advanced training courses that cannot be implemented this way, grants should be given to deserving employees to undertake the required training. Approval process for such training should be covered in the memorandum of understanding.</p> <p>Each e-skills Joint Development Funds SME group should adapt/customise the above frame to fit their situation.</p>
Quality control mechanism	The control mechanism put in place for the funding scheme adopted will apply to any individual beneficiary of this scheme. SMEs that have sponsored an unemployed person with a view to engaging such person on completion of the training should undertake to monitor the progress of the trainee.
Current examples	FRANCE - FAFIEC



Best Practices

06. Enterprise tax credits for e-skills

Nature of incentive	This is a fiscal incentive.
Type of incentive	Tax allowance and credits for employers
Objective of incentive	The objective is to encourage and motivate enterprises to train their staff by reducing the burden of taxation on the enterprises that provide appropriate training to eligible employees.
Benefits granted	Reduced tax liability resulting from tax exceptions for training costs.
Granting authority	The central tax administration of the state.
Qualifications required	Any enterprise irrespective of the size that provides ICT training for its staff within any of the European countries would qualify to benefit from the incentive. All levels of ICT practitioner training should be covered by this incentive.
Eligibility criteria	All enterprises that qualify to participate (as noted in the earlier rubric) would be eligible to provide to take advantage of the tax benefits.
Modality	<p>Enterprises that wish to benefit from this incentive will be provided with guidelines on how to participate. Such guidelines should be available on the appropriate central government website. It will contain the list of courses that are covered under the initiative. It should also contain the list of all the training providers that are approved for this purpose as well as the ultimate qualifications expected.</p> <p>A standard form to be used in detailing and reporting the cost of the training should be provided and available on the website. It should contain the items which could be taken into account in calculating the eligible training expenses.</p> <p>Tax credits should cover the total course costs (to include wages and social security contributions of employees pursuing the qualification, tuition fees, course materials and examinations fees).</p> <p>Each country should determine the level of allowance to be provided. Nevertheless, it is recommended that tax credit should not be less than 20% of the qualifying total course cost. A pre-defined threshold must be provided.</p> <p>Tax credits will be redeemable in the year of assessment following the year of attainment of the qualification.</p>
Quality control mechanism	To ensure good quality and standard of the training, only courses provided by training bodies that have been approved by the national educational authority will be accepted. Employees of enterprises benefiting from tax credits must successfully obtain the qualification for which the training was undertaken.
Current examples	None



Nikos Ioannou
CEPIS - EU Affairs Manager

Financial and fiscal incentives dedicated to the development of e-Skills ultimately represent an investment in Europe's digital future. More than ever, ICT professionals have to sharpen and expand their skills-sets to be able to serve with competency society and the economy.

Member states cannot afford long-term e-skills shortages which hamper economic growth and undermine competitiveness. Governments working in partnership with civic society and business must create and maintain a policy environment which encourages continuous professional development and motivates individuals and organisations to invest in the development of e-Skills. Providing incentives for e-Skills development supports Europe's efforts to create more and higher value jobs, attract investment and strengthen social inclusion.

Some key findings

The study made the following findings and observations:

1. All the countries covered by the study have policies which are aimed at ensuring that the right quality and quantity of skills are available within the economy. At the European Union level, there is a well defined policy to encourage the development of e-skills. National ICT policies tend to focus on developing basic user skills. The development of practitioner skills is in most countries considered to be part of continuing vocational training policy.
2. Effect of public policy measures on enterprises training policy and practices varies by type of measure. Many enterprises do not particularly engage in training their staff. There is a general tendency to seek the “ready-made” employee during recruitment or to “free-ride” thereafter.
3. Initiatives that result from the involvement of a multi-stakeholder partnership arrangements show a high level of efficiency and effectiveness, thus indicating that some form of private-public collaborations delivers very good results.



4. All the types of financial and fiscal incentives can be targeted at different types of ICT practitioner training. Financial incentives are by far more prevalent and more popular than fiscal incentives. Training grants and course subsidies are the most favoured forms of financial incentives provided.
5. Reduced social contributions and tax incentives are funded through public sources of financing. Incentives can be used to cover all or single components of educational expenses. Training grants, subsidised courses, and loans can be used to provide access to education and training to those from disadvantaged backgrounds who might otherwise be excluded.
6. With most incentives, the study found some form of geographical limitations as regards eligibility and validity. Training grants and tax inducements are the only types of incentive that do not require learning to take place in the country where they are implemented.
7. Subsidised courses and training vouchers/Individual Learning Accounts (ILA) imply that a certain degree of co-financing on the part of the individual or the enterprise is needed. The level of financial commitment by the individual or the enterprise is crucial to success of the incentive.
8. There are a number of factors that would potentially affect the attractiveness of an incentive for the enterprise especially SMEs. There are similarities in the factors affecting the attractiveness of the incentive to an enterprise and those affecting the take-up of an incentive by individuals. Most incentives are fairly well adapted for the benefits of small and medium enterprises.
9. The efficiency (or inefficiency) of an incentive is partly accounted for by the reduction in the waste of the resources devoted to it. Therefore a performance assessment mechanism needs to be attached to each incentive.
10. The popularity of an incentive with the beneficiary and the level of take up are fairly linked to the time-lag between the training and the initiative. All initiatives uncovered by this study appeared to have been fully subscribed and fully taken up by beneficiaries. Yet, the general level of awareness of initiatives of incentives for financial and fiscal support is very low.
11. The study identified sustainability of incentive as a key element for its continuity and, ultimately, its usefulness.
12. In reviewing transferability of good practices from one country (or provider) to another, the study noted that, in principle, most of the incentives identified would work effectively in any country.

Recommendations



Recommendation 1

Define clear policy guidelines that show commitments to the development ICT practitioner skills

The countries that have been most successful in encouraging development of ICT practitioner skills are those with clearly defined policies to promote this issue. Most successful initiatives taken were found in the countries with active policies on e-skills development.

It is recommended that a policy guideline should be designed at the EU level and proposed to the Member States. Considering the application of the principle of subsidiarity, it is not envisaged that a binding policy could be applied in all the countries. Nevertheless, some form of Recommendations could be proposed. Such

recommendation should clearly present the benefits of pro-activity in promoting ICT practitioner skills to the economy, especially to SMEs. It should present a set of guidelines which the countries could follow in designing the right policies. Such guidelines should also clearly identify the role of each of the stakeholders in this matter. In encouraging more active policy engagement by the countries, the European Commission could highlight some existing good practices. Policy frameworks could be modelled on those of Member States that have demonstrated some successes in this respect.

Recommendation 2

Engage all the stakeholders in supporting and actively promoting e-skills funding

It is clear that there is a need to provide incentives as a means of motivating ICT practitioners to undertake skills development. Such incentives, as this study has revealed, would come in the form of financial or fiscal support. The government has got a lot of input to make into this venture. Nevertheless, governments alone can not, and should not be relied upon to finance the training of ICT practitioners. Yet, it is a fact that the individual ICT practitioners as well as the SMEs have limited resources to fund training.

The co-financing of e-skills training by both the public and private sector (enterprises, ICT practitioners, the ICT industry, trade

unions, employers' associations such as PIN-SME, etc.) should be encouraged. By encouraging a certain level of co-financing (based on means), each party will become an active participating stakeholder in the process. This would mean that each party has a vested interest to ensure that resources are not wasted and ensure the success of the training.

Each country should be encouraged to float a fund destined for the financing of ICT practitioner skills. A body such as PIN-SME could take the initiative to invite other stake-holders with a view to teaming up for this purpose.

Recommendation 3

Encourage and promote appropriate incentives that are adapted to the socio-economic situation of the country

It is recommended that scholarships/grants and loans financed by both the public and private sectors to promote the study of ICT disciplines in higher education should be encouraged. In particular, they should be targeted at the most disadvantaged in society and at women who are clearly under-represented in the sector. Training grants and subsidised courses should be encouraged and promoted for the unemployed, as well as for those from disadvantaged backgrounds who might otherwise be excluded to meet labour shortages for ICT practitioners.

Cost of courses should be subsidised in order to encourage the development of e-skills of ICT practitioners in SMEs and especially in micro-enterprises. Reimbursements of costs for training ICT practitioners in SMEs should be encouraged. The ICT industry (especially large enterprises) should be encouraged to offer paid internships/graduate placement programmes. The use of paid educational leaves should be explored and actively encouraged by employers of ICT practitioners.

Recommendation 4

Ensure better targeting and adapting of the incentives while preparing to launch the initiatives

Evidence found in the course of this study indicated that the success of the initiative depends on how carefully the initiative is planned and executed. Careful planning should be done in order to ensure a successful outcome.

The appropriate groups of beneficiaries should be identified and the right initiatives carefully targeted at them. These would include persons still in education and being specifically trained in ICT, unemployed ICT practitioners who need to upgrade their skills, unemployed persons who are being trained to pursue a career in the ICT profession, career-changers who wish to embark on a career in ICT, and under-represented groups such as women and 50+ groups.

Items of cost that should be considered for inclusion in any initiative at the planning stage could include one or several of fees and payments for courses, travel and subsistence payments, costs of training centre, training premises, teaching materials, and labour costs of internal trainers in an enterprise.

Subsidised courses and training vouchers/ Individual Learning Accounts (ILA) are co-financed by individuals and SMEs. In designing and implementing these types of incentives, planners should recognize the limited resources that these groups have at their disposal and offer more favourable terms to these groups based on the financial means at their disposal.

Some initiatives involve administrative burden imposed on individuals and SMEs. These should be minimised as much as possible. Heavy burdens will only serve as disincentive to small enterprises.

In order to ensure that resources are not wasted a performance-related mechanism should be incorporated into the design of all incentives. To ensure the efficiency of the financial resources devoted to training, the incentives should be linked only to approved training providers and courses.

Conditions of loans for developing ICT training should be attractive in terms of interest rates and the terms of repayment, enough to motivate the take-up of such incentives.

Training grants and subsidised courses to meet labour shortages in the ICT labour market should be linked to job search activities.

National governments should seek to integrate the human capital investment tax credit for ICT practitioner training with national level policies and initiatives around e-skills. This tax credit should ideally provide benefits both for the individual worker and the enterprise in which they work. Incentives on HCITC should consider a "cash-back" component in order to ensure that those on low incomes (with low tax liabilities) can gain the maximum benefit from the credit.

The ICT industry should be actively encouraged to participate in developing the curriculum for training courses, which are designed to meet shortages in the ICT labour market.

Incentives should be designed in a way that ensures that ICT practitioners and SMEs have a greater variety of choice by permitting a wide range of training courses and certifications to be covered by the initiative.

Recommendation 5

Actively provide publicity on incentives and the initiatives launched to ensure awareness

ICT practitioners as well as the enterprises that employ them should be aware of the financial and fiscal incentives (both specific and general) that are available for training. Incentives are only of any practical use to a potential beneficiary if he or she is aware of it. It is important to increase the visibility of the available incentives at a very wide level and targeted at the group to which it is intended. The guiding principle in making this particular recommendation is the need to answer the basic question: "If potential beneficiaries are searching for available incentives, where are they most likely to explore." It is important that information on incentives is available at regional, national and at EU levels. At each of these levels, especially at the national and EU levels, there are specific roles that must be played.

At the national level:

Premise: ICT practitioners as well as the enterprises that employ them should be aware of the financial and fiscal incentives (both specific and general) that are available for training.

Action: A portal should be created at the national level, containing a detailed inventory of incentives/initiatives that are available for ICT practitioners at all levels in their careers to develop/upgrade their skills in ICT.

Visibility: This portal should be made visible at all ports of information search by potential beneficiaries. The portal should not only include incentives/initiatives aimed specifically at training of ICT practitioners, but it should also include general incentives

(such as educational leave) which ICT practitioners and enterprises could take advantage of.

At the EU level:

Premise: At the EU level, it is essentially to have one address that every person searching for information anywhere in Europe should call to obtain virtual direction, from where they could be led to individual Member State's specific possibilities and availability.

Action: The European Commission (DG Enterprise and Industry) and possibly in cooperation with Information Society DG should be proactive in providing the umbrella signposting portal. A central URL should be created at the EU level (with clear indication of "funding of e-skills in Europe" in the search engines). There should be a welcome page with clear links to the Member States' e-skills funding portals (or at least to the section of the ICT portal that has a section on e-skills funding).

Visibility: This should be given as much visibility as possible through identifying and promoting the first port of call for any search on the subject. It should be backed up for maximum impact by encouraging links in other stakeholders' portals – for example eSkills Industry Leadership Board / European Schoolnet's European e-Skills and Careers Portal, or even the European Grant Advisor (EUGA) portal.

All available opportunity should be taken to propagate and promote the first-port-of-call URL whether this is hosted by the European Commission or by an EU funded programme's website.

Recommendation 6

Encourage and engage ICT scientific societies in promoting and developing e-skills

ICT scientific societies should be encouraged to disseminate information on incentives for ICT practitioner training amongst its members.

ICT scientific societies perform a very important role in guiding the development of the sector. They are public or private organisations that have been established to promote activities or objectives of a particular scientific or engineering discipline through various ways. They are fully aware of the importance of developing the

skills of its members. In fact many offer subsidised courses to its members. ICT scientific societies could play an important role in disseminating information on incentives available for training of ICT practitioners as well as best practices. The importance of ICT scientific societies for promoting education and training as well as attracting researchers in ICT has been recognised by Directorate-General Information Society and Media.

Notes and acknowledgement

About the study

The study debuted in January 2009 by establishing of an analytical frame to study the current situation regarding national policies, enterprise attitudes, relevant incentives, existing initiatives and the effectiveness of the current state in meeting the needs for enhancing ICT skills of practitioners.

The overall methodological approach consisted of:

- Creating an empirical study frame;
- Establishing the range of possible incentives for development of e-skills;
- Conducting an extensive and intensive search for initiatives resulting from the incentives;
- Interviewing and discussing with experts involved in various ways with this subject;
- Assembling a body of evidence (quantitative and qualitative) to support the analysis of efficiency and effectiveness of incentive as well as the sustainability and scalability;
- Analysing the incentives on the basis of the predetermined yardsticks and criteria;
- Drawing the relevant key observations and findings;
- Preparing an appropriate set of incentives;
- Presenting recommendations on the way forward.

Other than this brochure, two main reports have been presented on the study. The first Synthesis report on State-of-play in Europe in respect of incentives on e-skills funding. This presented at the interim stage. The second was the final study report on Best Practice and Recommendations. It was presented on completion of the second and final phase of the study. It presented the outcome of the analytical work done on the incentives. It also presented the key findings and recommendations as well as a proposed set of best practice incentives.

We acknowledge the support and inputs received from several members of the ReferNet (an important and active CEDEFOP network of national experts). We also acknowledge the input from several members of the European Research Associates Network, in particular, Prof. Mark Stuart of the Leeds University (UK).

Steering Committee

We are very grateful for the invaluable support received from the following experts who together constituted the project's steering committee:

HUVENEERS Christian
VICZE Gabor
KIERKEGAARD Jacob
ROHDE Gerd
TOFFALETTI Sebastiano
ORTH Rémi

Project team

The project team was made up of the following:

EU-RA (Luxembourg)

GREGORY Dean Jonathan (Co-ordinator)
WADOLKOWSKA Ewa Maria

EUROPEAN DYNAMICS SA (Greece)

RENTZEPOPOULOS Panagiotis

CERIC at University of Leeds (UK)

FORDE Chris
STUART Mark

Acknowledgement

This project benefitted immensely from support received in various forms from several experts. Without their support, the extensive and intensive nature of the study would have been impossible. We acknowledge the inputs of:

ADAMSON Felicity,
ÁRNASON Gunnar J,
BEJAKOVIC Predrag,
BELECKIENE Giedre,
BOTNARIUC Petre,
BØEGH NIELSEN Peter,
BUSUTTIL DOUGALL Daniela,
BUYSE Dany,
BOYAR Ercan,
ÇAKAL Recep,
CAMPELJ Borut,
CHERNAEVA Totka,
COURCOUX Yanne,
COX Annemiek,
FEJERSKOV Jesper,
HAJDÚ László,
HEILINGBRUNNER Klara,
HIPPEL-SCHNEIDER Ute,
HOOK Terry,
KAILIS Emmanuel,
IVANOV Dean,
JIGAU Mihai,
KANGASNEMI Jouni,
KAPENIEKS Atis,
KAVALIAUSKIENE Agne,
KLOTZ Tamas,
LONG Liz,
LUEDERS Hugo,
MARINONI Clementina,
MOUROUZIDES Yiannis,
NOESEN Jos,
PETROVIC Pavel,
PFISTERER Stephan,
PEPPES Alexandros,
RAUDSEPP Kersti,
RICHIER André,
ROBINE Bruno,
RODRIGUES Bruno,
PEREZ RODRIGUEZ Santiago,
STØY Finn,
STROMSHEIM Jan Peter,
TILESCH Gyorgy,
TÖPFER Wolfgang,
TØTTRUP Michael,
VAN WEYDEVELDT Reinald,
VISSER Karel,
VON ESSEN Frederik,
ZAHOREC Ivan.

Additional notes

Background

The European Commission adopted in September 2007 a Communication on “e-Skills for the 21st Century” presenting a long term e-skills agenda and including five major action lines at the European level. The Competitiveness Council of Ministers welcomed this Communication and adopted Conclusions on a long term e-skills strategy at its meeting on 22-23 November 2007. Stakeholders have established the e-Skills Industry Leadership Board to contribute to implementing the strategy.

More information

E-Skills for the 21st Century, European Commission, DG Enterprise and Industry

<http://ec.europa.eu/enterprise/sectors/ict/e-skills>

European e-Skills 2009 Conference: Fostering ICT professionalism

<http://www.eskills-pro.eu>

European e-Competences Framework

<http://www.ecompetences.eu>

E-Skills Industry Leadership Board

<http://www.e-skills-ilb.org>

European e-Skills and Careers portal

<http://eskills.eun.org>

Related projects

EASE - European Alliance on Skills for Employability

<http://www.e-skills-ilb.org/alliance/default.aspx>

Evolution of the Supply and Demand of e-Skills in Europe

<http://www.eskills-monitor.eu/>

eSkillsPolicy - Benchmarking study on policies on multi-stakeholder partnerships for e-skills in Europe

<http://www.eskillspolicy-europe.org/>

ECDL - European Computer Driving License Foundation

<http://www.ecdl.com/publisher/index.jsp>

CEDEFOP Skillsnet

http://www.cedefop.europa.eu/etv/Projects_Networks/skillsnet/

EUGA - EU Grants Advisor

<http://www.microsoft.com/emea/euga/>

EUCIP (European Certification of Informatics Professionals)

<http://www.eucip.com/>

Further information

To obtain further information and/or to request printed copies of this brochure, please contact

Innovation Policy Directorate

Unit D4 "ICT for Competitiveness and Innovation"
1040 Brussels, Belgium
Fax: (32-2) 2967019
Email: entr-ict-for-comp-and-innovation@ec.europa.eu



European Commission
Enterprise and Industry

or

e-skills Funding Project Consortium

c/o eu-ra
P.O. Box 1343, L-1013, Luxembourg
Email: eskills@eu-ra.eu
www.e-skills-funding.eu



e - Skills Funding