The Challenge of Skills Development in the ICT Sector

Human Capital Working Group
Zagreb, 17 September, 2009
The Sector Competitiveness Project focuses on Human Capital development in the ICT / BPO sectors

• Labour markets in the Western Balkans economies are facing an important skill gap at the macroeconomic level.
  – Highly differentiated unemployment rate by level of academic achievement and a high number of unfilled positions.

• Specific studies in the Information and Communication Technology (ICT) and Business Process Outsourcing (BPO) sectors highlight that main barriers for private companies’ development are indeed related to the difficulties to hire people with the required level of skills

• The OECD has reviewed the international practices to develop links between the private sector and the education system
  – Initiatives have been prioritized and main best practices have been developed and will be presented

• The objective of the Working group will be to define concrete actions to be launched within the next 6 months with the support of the OECD
PRELIMINARY DOCUMENT

BPTO firms are facing difficulties linked to the lack of employees with required levels of skills

The acute skills shortage locally…

...is causing increased costs, lower quality and loss of business

### Main challenges faced by BPTO companies

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability of skills</td>
<td>75%</td>
</tr>
<tr>
<td>Providing more services</td>
<td>67%</td>
</tr>
<tr>
<td>Keeping prices low</td>
<td>55%</td>
</tr>
<tr>
<td>Management capacity</td>
<td>50%</td>
</tr>
<tr>
<td>Delivering orders quickly</td>
<td>25%</td>
</tr>
<tr>
<td>Infrastructure (e.g. telecommunications)</td>
<td>16%</td>
</tr>
<tr>
<td>Other</td>
<td>1%</td>
</tr>
</tbody>
</table>

### Impacts of lack of skills to fill vacancies

<table>
<thead>
<tr>
<th>Impact</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased running costs</td>
<td>51%</td>
</tr>
<tr>
<td>Loss of quality in the service</td>
<td>46%</td>
</tr>
<tr>
<td>Loss of business</td>
<td>39%</td>
</tr>
<tr>
<td>No impact on business</td>
<td>38%</td>
</tr>
<tr>
<td>Loss of efficiency</td>
<td>35%</td>
</tr>
<tr>
<td>Increased recruitment costs</td>
<td>31%</td>
</tr>
<tr>
<td>Other</td>
<td>3%</td>
</tr>
</tbody>
</table>

Sources: RCS study, OECD analysis
Analysis and review of literature suggest that cooperation between the private sector and the education system should indeed be reinforced.

### Top 20 skills where employers find a gap between needs and resources

<table>
<thead>
<tr>
<th>Skill</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management skills</td>
<td>58%</td>
</tr>
<tr>
<td>Problem solving skills</td>
<td>57%</td>
</tr>
<tr>
<td>Leadership skills</td>
<td>54%</td>
</tr>
<tr>
<td>Communication skills</td>
<td>51%</td>
</tr>
<tr>
<td>Showing initiative</td>
<td>51%</td>
</tr>
<tr>
<td>English language skills</td>
<td>49%</td>
</tr>
<tr>
<td>Team working skills</td>
<td>48%</td>
</tr>
<tr>
<td>Internet softwares skills</td>
<td>46%</td>
</tr>
<tr>
<td>Ability to follow instructions</td>
<td>46%</td>
</tr>
<tr>
<td>Formal qualifications</td>
<td>46%</td>
</tr>
<tr>
<td>System software support skills</td>
<td>46%</td>
</tr>
<tr>
<td>German language skills</td>
<td>45%</td>
</tr>
<tr>
<td>Understanding customer needs</td>
<td>44%</td>
</tr>
<tr>
<td>Operating systems</td>
<td>43%</td>
</tr>
<tr>
<td>Networking/LAN/WLAN skills</td>
<td>43%</td>
</tr>
<tr>
<td>Ability to learn</td>
<td>42%</td>
</tr>
<tr>
<td>System and data security skills</td>
<td>41%</td>
</tr>
<tr>
<td>Process and system mgmt skills</td>
<td>41%</td>
</tr>
<tr>
<td>Client/server applications skills</td>
<td>41%</td>
</tr>
<tr>
<td>Geo. information systems skills</td>
<td>40%</td>
</tr>
</tbody>
</table>

**Comments**

- 5 most difficult to find skills are business related
  - More than 50% of employers identify those skills as presenting a gap between supply and demand
- Many studies have pointed out that Universities need to further train students in soft and business related skills
- Universities in the OECD have increasingly developed links with the private sector in order to provide more market-relevant teaching and improve employability of their students

The private sector and education system should develop their collaboration so as to limit issues of skills mismatch and increase employability of graduates.

Sources: OECD Reviews of national Policies for Education, ETF Country analysis, RCS study, OECD analysis
The OECD has reviewed and prioritized initiatives to be launched in the Western Balkans through a three-step approach.

**Project approach and methodology**

**What works?**

- Step 1: Identify potential actions

**What would work?**

- Step 2: Prioritize actions

**How would that work?**

- Step 3: Define Action plan

**Activities**

- Review of best practices in the OECD
- Review of literature on Western Balkans education system and cooperation with the private sector
- Interview with stakeholders in each of the countries (Universities, Private companies, Ministries of Education/ of Science)
- Feedback on OECD best practices
- Set up of prioritization framework
- Selection of the actions to be developed in priority
- Identification of Key success factors
- Definition of implementation plan
- Selection of the pilot actions to be developed
- Identification of countries willing to take part in pilot implementation
- Definition of institution in charge of the projects in each countries

What works?

What would work?

How would that work?
Based on experience in OECD countries, 9 initiatives have been identified and presented to stakeholders in the Western Balkans Countries

### Initiatives

<table>
<thead>
<tr>
<th>Description</th>
<th>A. Set up of formalized strategic partnership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partnership between one or a few education institutions, involving private companies and encompassing several forms of cooperation</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>B. Operational cooperation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Provision of content</td>
<td>• Development in courses of management skills for ICT specialists</td>
</tr>
<tr>
<td></td>
<td>• Provision of teaching and case study material by the private sector</td>
</tr>
<tr>
<td>2. Practical experience</td>
<td>• Set up of measures to facilitate practical experience by students</td>
</tr>
<tr>
<td></td>
<td>• Development of internships as a required step in the course of studies</td>
</tr>
<tr>
<td>3. Matching Mechanisms</td>
<td>• Development of career development services and tools (fairs, internet sites for matching..)</td>
</tr>
<tr>
<td>4. Employees training</td>
<td>• Development of incentive and facilitation of provision of training to employees by companies</td>
</tr>
<tr>
<td>5. Training of unemployed</td>
<td>• Requalification of unemployed people through provision of courses</td>
</tr>
<tr>
<td></td>
<td>• Internship by companies to unemployed people</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>C. Strategic cooperation</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Private financing</td>
<td>• Contribution to the financing of individual universities / faculties / programs by companies</td>
</tr>
<tr>
<td>7. Management of institution</td>
<td>• Representation of private sector companies in the board of individual faculties</td>
</tr>
<tr>
<td>8. Steering of education system</td>
<td>• Representation of the private sector in the governing bodies of higher Education Institutions</td>
</tr>
</tbody>
</table>

- The initiatives have been presented to stakeholders in Universities, in the private sector as well as to government representatives
- Feedback provided enabled to enrich the list of initiatives and to identify a list of criteria to assess their potential
Although specific examples exist, links between the private sector and education institutions are not very developed in the Western Balkans.

<table>
<thead>
<tr>
<th>Initiatives</th>
<th>Current situation in the Western Balkan</th>
</tr>
</thead>
</table>
| 1. Provision of content         | • Large ICT companies (e.g. IBM, Microsoft, Cisco) provide material for main universities in most countries in the region  
• Universities have started to introduce elective courses in “soft skills” that often draw important interest of students |
| 2. Practical experience         | • Students often do summer internships on a voluntary base  
• Limited institutional support and no national framework exist |
| 3. Matching Mechanisms          | • Career fairs tend to be very developed in the region  
• For small programs, matching is often done by the dean of the university |
| 4. Employees training           | • Limited training is offered to employees in the region  
• Only Croatia and Macedonia have well-developed incentive schemes |
| 5. Training of unemployed       | • Limited applicability to ICT and low impact on competitiveness  
• Some measures for requalification of non-ICT trained exist |
| 6. Private financing            | • Most public universities in the region can only be financed through state budget. Faculties share resources with the overall university  
• Private universities tend to have stronger links with the private sector |
| 7. Management of institution    | • Some individual initiatives have been set up but in general, they have not been very successful  
• University of Prishtina has set up an industrial advisory council |
| 8. Steering of education system | • Roundtable have sometimes been organized with policy makers and university at the local level but no formal forum exist |
Initiatives have been assessed using two sets of complementary criteria balancing benefits from each initiative with feasibility:

**Initiative prioritization framework**

- **Benefits for stakeholders**
  - Expected impact
    - Initiative increases the employability of students, firm competitiveness and universities capacity and relevance
    - No competing initiative exists in the region
  - Scope of initiative
    - Number of people/organisation potentially impacted by the initiative is high
    - Initiative can be extended to other sectors
  - Cooperative approach
    - The project would help establish a dialogue between the different stakeholders
    - The initiative has a clear regional dimension
- **Feasibility**
  - Costs
    - Cost of the initiative are limited and/or can be shared among stakeholders
    - First results can be achieved in a relatively short timeframe
  - Institutional setting
    - An existing structure could be in charge of implementation of the pilot
    - Some local initiatives exist that can be leveraged to launch a larger action
  - Roll-out
    - Launching a pilot is possible and effective
    - Scalability of the action is possible and would benefit from experience gathered in the pilot phase

Note: (1) Stakeholders considered include students, companies in the ICT sector but also universities and governments
Based on feedback from stakeholders and internal research, 2 actions have been prioritized:

Development of an internship strategy, measures to increase employees training and set up of a regional network between universities and the private sector are the initiatives with most potential.
Focus should be set on developing employees training and setting up internship schemes

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Employees training</th>
<th>Internship schemes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected impact</td>
<td>• Increase in skills of existing employees</td>
<td>• Important increase of students employability</td>
</tr>
<tr>
<td></td>
<td>• Improved productivity of companies</td>
<td>• Significant reduction of studies-to-work transition time</td>
</tr>
<tr>
<td>Scope</td>
<td>• Development of training policies and mechanisms would impact all companies</td>
<td>• Better screening of applicants for companies</td>
</tr>
<tr>
<td>Cooperative approach</td>
<td>• Limited collaboration with universities as they are only marginally providing training</td>
<td>• Some programs exist for individual universities</td>
</tr>
<tr>
<td></td>
<td>• Policies and measures would be national despite potential for regional exchange of experience</td>
<td>• Nationwide initiative could be launched involving all social partners</td>
</tr>
<tr>
<td>Costs</td>
<td>• Cost of training policies would be born by the state</td>
<td>• Extensive collaboration is required between students, companies and education institutions</td>
</tr>
<tr>
<td></td>
<td>• Incentive scheme should be designed with care to avoid windfall effect for companies</td>
<td>• Regional initiative can be envisaged</td>
</tr>
<tr>
<td>Institutional setting</td>
<td>• Limited changes to be done for a pure subsidy program</td>
<td>• Costs of training for companies can be offset by work achieved if training is sufficiently long</td>
</tr>
<tr>
<td></td>
<td>• A quality certification may need to be set up as training offer is very fragmented</td>
<td>• Institutional framework and curricula may need to be adapted</td>
</tr>
<tr>
<td>Scalability</td>
<td>• In order to limit initial cost, program could be focused on selected type of companies (start ups, SMEs) to test effectiveness</td>
<td>• Program could be launched on a limited number of universities in the regions and could be easily expanded</td>
</tr>
</tbody>
</table>
Preliminary Document

Review of international best practices in the fields of employees training and internship development will enable to highlight potential policy gaps.

Analysis for the two priority areas is structured as follows:

- **General situation:**
  - General assessment of the situation in the Western Balkans based on surveys and statistical indicators when available
  - Comparison with situation in other countries. European Union was in particular taken as a benchmark

- **Best Practices:**
  - Review of international best practices and identification of key success factors for both employees training and internships.
  - Selected case study

- **Current situation in the Western Balkans and main policy gaps:**
  - Preliminary review of the detailed situation in the Western Balkans in the main domains where best practices identified
  - Main policy gaps and potential areas for improvements
DEVELOPMENT OF EMPLOYEES TRAINING
Setting up an effective policy to develop and facilitate employees training is key to build and sustain competitiveness.

Potential issues

- Higher productivity:
  - Empirical studies show that implementing employees training programs increases productivity at the firm level\(^{(1)}\).
  - Studies differentiate between general training which has an effect on the economy as a whole and specific training whose benefit can only be taken by a specific company.

- Better adaptation to technological change:
  - Technological change in the ICT sector is rapid and skills acquired rapidly become outdated.
  - ICT firms feel a more pressing need to train their employees than other companies and would benefit greatly from a training program.

- Lower cost of hiring:
  - Employers need to train new hires extensively to provide them with the practical skills they need in their job.
  - Cost of training for employers acts as a potential deterrent for hiring new graduates.
  - Development of an employees training program would reduce cost of hiring graduates and promote employment.

Benefit of program

- Higher productivity:
  - Empirical studies show that implementing employees training programs increases productivity at the firm level\(^{(1)}\).
  - Studies differentiate between general training which has an effect on the economy as a whole and specific training whose benefit can only be taken by a specific company.

Notes: (1) See Bartel (2000) for a review of the empirical literature on the link between training and firm performance.
As part of the competitiveness agenda, the European Union is focusing on development of Continuing Training in Europe.

- Lifelong learning is given a high priority by the Member State of the European union
  - According to the Lisbon strategy, 12.5% of adults aged 25 to 64 should participate in lifelong learning by 2010
  - Eurostat has developed several series of indicator to monitor continuous training and employees training in particular

- Employees training is well developed in most countries in EU27

- Companies in EU-15 countries tend to do more training for their employees than those in newer member states

**Share of firms offering training to their employees -2005, in % -**

Legend:  
- EU 15  
- EU 27

Sources: Eurostat CVTS 2005
In comparison, continuous training is currently underdeveloped in Western Balkans countries.

- Western Balkans countries have agreed on a shared action plan from 2003-2005 in Skopje to improve adult learning.
- Share of firms providing any form of training to their employees in the Western Balkans is significantly below EU-27 average.
  - IT companies probably do more training than other companies, in part because certificates expire regularly.
  - Limited statistics exist on employees training (in particular on number of people trained).
- Incentives for firms are very scarce.
- Quality and quantity of training centres is not sufficient.

Review of policies regarding employees training focus on 4 policy levers

<table>
<thead>
<tr>
<th>Policy levers</th>
<th>Description</th>
</tr>
</thead>
</table>
| 1. Define funding mechanisms | • Employees training financing is subject to several market imperfections and externalities  
• Mechanisms need to be found to limit financial constraints |
| 2. Ensure delivery and quality are satisfactory | • Delivery of adult learning need to fit the needs of the employees both in terms of method and quality  
• Learning arrangements and quality certification processes need to be defined and implemented  
• 50% of adults interviewed in a survey on adult education by the Eurostat did not want to participate in a program  
• Information on the benefit of training and on the existing schemes need to be further promoted |
| 3. Improve information on training | • Adult learning involve several types of partners and is often within the scope of many different institutions  
• Co-ordination between the various players need to be established through a coherent framework |
| 4. Set up a coherent policy framework | |

Sources: OECD “Promoting Adult Learning”
1. Definition of funding mechanisms can both promote employees training and better align cost and benefit sharing

**Selected Initiatives**

- **Financing schemes for employers**
  - Tax deduction: Firms can deduct training costs (or more) from profit/payroll tax calculation (all countries). Train-or-pay mechanisms and SME specific clauses have also been developed (e.g. France)
  - Grants from the general budget (e.g.: European Social Fund)
  - Payback clauses
  - Pooling of resources by association

- **Financing scheme for learners**
  - Individual loans
  - Tax mechanisms: income tax deduction and payroll tax contribution to cost
  - Allowance / Individual Learning Accounts
  - Training leave funding

**Sources:** OECD “Promoting Adult Learning”, Barter (2000)

- Adult learning brings benefit to the learners, to its employers and to the economy as a whole.
  - There is a strong case to develop co-financing schemes in order to allow for an efficient level of adult learning

- Due to financial constraints, small and medium sized companies will have more difficulties to fund training than large companies.
  - Governments have developed mechanisms to limit financial constraints to training

- Many countries have set up cost sharing and subsidization instruments targeting learners and employees
1. Funding mechanisms are scarce in the Western Balkans and should be developed

### Existing schemes in the Western Balkans

<table>
<thead>
<tr>
<th>Country</th>
<th>Scheme Details</th>
</tr>
</thead>
</table>
| Croatia | - Act on State subsidy for Education and Training states that employers can deduct part of the cost for training from their tax base. Subsidies rate take into account: General or specific training; Large companies or SME  
- In general, training providers are subject to VAT. However, accredited program are exempted |
| Macedonia | - Incentive exist for companies in Technicval and in other industrial zones set up by the government  
- Outside of those zone, little support is provided |
| Other countries | do not have incentive schemes |

### Recommendations

- Countries in the Western Balkans should consider set up incentive schemes for employees training
- Set up of subsidies may be an issue for several countries due to:  
  - Limited resources  
  - Difficulties to integrate within tax system
- Even in the absence of subsidies, cost sharing mechanisms could be developed
- An assessment of the adaptation of the various existing instruments to the WB context as well as a cost-benefit analysis should be performed

Sources: DVV, International, Interviews
2. Ensuring that training institutions satisfy the quality and time-flexibility requirements of employees and employers help increase participation

- Setting up a quality control of continuous training institutions is critical for building of a supply base
  - Adults are more likely to participate in learning if quality of the learning supply is well recognized
  - Employers are also more likely to train their employees if outcome is clear

- Flexible training arrangement need to be put in place to ensure that delivery is consistent with the needs of the companies
  - Lack of time is the main issue for firms that have an unfulfilled need for training
  - Most of training is happening on the workplace of the workers or within the companies

**Selected Initiatives**

- Time arrangement and distance learning
  - Development of distance learning offer (with limited physical courses)
  - Recognition of workplace learning within the adult learning strategy

- Quality control schemes
  - Set up of a quality control institution for private providers receiving public funding
  - Definition of a quality standards for institutions (e.g. Quality seal in Austria, Investors in People in the UK)
  - Set up of impact assessment of specific programs

Sources: OECD “Promoting Adult Learning”
2. Quality control of institutions and flexibility of providers could be improved in the Western Balkans

**Existing schemes in the Western Balkans**

- Croatia, Macedonia, Montenegro and Serbia have organization in charge of monitoring the quality of adult education providers.

- These institutions target in priority formal education providers (i.e. delivering an official diploma).
  - In Macedonia, links between formal and informal system are very limited.

- Tertiary education institution do not offer possibility for adult education. Due to capacity constraints and strict rules for delivery.
  - Employees training is most often outsourced to private providers.

**Recommendations**

- Quality certification for adult education should be developed in the countries where it is still missing.

- Accreditation of informal training providers should be considered as they represent a large share of training.
  - In particular, if informal training is subsidized, there needs to be accreditation of providers and programs.

- Institutions should be encouraged to provide more flexible ways to provide training to employees (on the workplace, by distance).

Sources: DVV, International, Interviews.
3. Develop information on the benefits of training and on the available solutions will help develop the demand for training

- Adult learning brings clear benefit to the participants
  - For employees: study by the OECD in 11 economies showed that wage premiums of employees ranged from slightly above 0% to up to 5%
  - For employers: empirical study in the US showed that impact of training on productivity was stronger than on wage growth
- However, 50% of adults report that they do not take part because they do not perceive a need and firms investment is minimal
- Government need to communicate on the benefits of training and develop counselling for employees and employers

Selected Initiatives

- Counseling structure for learners
  - Set up of regional centers providing guidance on needs and learning alternatives
  - Set up of databases with learning providers and opportunities
- Advisory structures for employers
  - UK: according to the program to promote Lifelong learning, employers can meet experts to assess the needs of the organization and propose potential providers
- Promotion of training
  - Switzerland: week-long “learn festival” focusing attention on adult learning

Sources: OECD “Promoting Adult Learning”
3. Although some countries do promote adult training, information on training opportunities to participants is lacking in the region.

**Existing schemes in the Western Balkans**

- Monitoring and tracking of providers of training is extremely limited
  - Agency for Adult education in Croatia is developing statistical tools as part of a CARD program
  - In Bosnia and Herzegovina, private continuous education institutions can not be set up as companies
- In most countries, limited awareness of adult training needs and opportunity exist in the private sector
- Several countries in the region have set up Lifelong learning festival (in particular, Croatia, Montenegro and Serbia)

**Recommendations**

- Database on education providers should be developed and made accessible for all users in order for them to be aware of training opportunities
- Services for identification of training needs by private companies could be set up (e.g. within chamber of commerce business services)

Sources: DVV, International, Interviews
4. Given the high number of stakeholders, set up of a coherent policy framework helps maintain focus and visibility of strategy

Selected Initiatives

- Set up of a unified state agency in charge of the various training needs
  - UK: Learning and Skills council is in charge of planning and funding education and training for all adults above 16 (excluding higher education)

- Involve social partners in the development of training policies

- Set up coordination institutions
  - Netherlands: a platform for lifelong learning was proposed in 2004

- Define clear strategies with shared targets
  - EU: as part of the Education and Training 2010 strategy, at least 12.5% of adults should participate in further education and training

Adult education involve a large number of players:

- National level and regional level institutions, private sector, NGOs, education provider
- Responsibilities are often shared between Ministries of Education and Ministries of Labour

The various institutions may have various objectives

Different institution may be involved in training for various populations and/or for employed and unemployed workers

The fragmentation of responsibilities result in a limited clarity for potential learners and inefficiency of designed policies

Sources: OECD “Promoting Adult Learning”, Desk research
4. Most Western Balkan Countries have developed an Adult Learning Strategy but monitoring tools are rare and policy coordination is limited

<table>
<thead>
<tr>
<th>Existing schemes in the Western Balkans</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Almost all countries in the Western Balkan have developed a specific legal framework for the development of adult learning.</td>
</tr>
<tr>
<td>– No framework document has been set up in Albania, Bosnia and Kosovo under UNSCR 1244</td>
</tr>
<tr>
<td>• Responsibility over adult learning is often fragmented</td>
</tr>
<tr>
<td>– Responsibility is often split between ministry of education and labor with no specific department or resources</td>
</tr>
<tr>
<td>– In contrast, Croatia and Macedonia have set up specific structures in charge of adult learning</td>
</tr>
<tr>
<td>• None of the country has developed statistical tools that would allow for a full monitoring of activity</td>
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</tbody>
</table>

**Recommendations**

• Development of an independent entity / department with responsibility over adult education should be considered in the countries where it does not exist

• Shared objectives and strategy should be set up in consultation with social partners

• Statistical tools should be developed in order to monitor the development of adult training and progress in achieving strategy

Sources: DVV, International, Interviews
SET UP OF AN INTERNSHIP
STRATEGY
Evidence from the Western Balkans show that transition is slow. Anecdotal evidence suggests students sometimes stay in their last year of studies to postpone entry on the job market. Internships are an efficient way to connect students with the labour market to reduce their transition time to work. Set up of an effective internship scheme can mitigate many issues that are often faced by education systems.

### Potential issues

**Limited practical skills**

- Students can obtain business-related skills and experience.
- Students can confront the theoretical knowledge they get at the university with skills needed in the labour market, giving relevance check for teaching.

**Long studies-to-work transition**

- Evidence from the Western Balkans show that transition is slow.
- Anecdotal evidence suggests students sometimes stay in their last year of studies to postpone entry on the job market.
- Internships are an efficient way to connect students with the labour market to reduce their transition time to work (1).

**High cost/risk of hiring**

- Companies hiring graduates currently have limited information on their actual potential performance on the job.
- Internships give companies the opportunity to assess the quality of potential applicants over a significant period with a limited risk.
- Companies can hire students that have already a significant work experience, reducing information asymmetry.

### Benefit of program

- Companies hiring graduates currently have limited information on their actual potential performance on the job.
- Internships give companies the opportunity to assess the quality of potential applicants over a significant period with a limited risk.
- Companies can hire students that have already a significant work experience, reducing information asymmetry.

Notes: (1) Empirical evidence for business graduates showed that doing an internship reduced time to obtain first position by 54% (Gault and al. 2000)
Most European countries have developed internship as part of their curriculum

• Internship have a long history in the education systems in the US and in the EU

• Although limited statistical data exist on the number of students doing internships, anecdotal programs have become widespread in the last 20 years
  – Originally, internships were mainly limited to selected “practitioners” courses of study (e.g. medical schools, law,). They have then expanded to business studies and then engineering degrees
  – In France, the share of students in tertiary education doing an internship increased from about 2% to 5.8% from 90 to 2004-2006
  – In the US, 7.2% of undergraduates in engineering studies have been interns and 4.3% of undergraduates in Computer science

• A number of government have developed integrated approach to the development of internships
  – In some countries, concerns have been raised that the educational value of internships was sometimes limited
  – Government-sponsored schemes involving all social partners have been designed to ensure a consistent approach
In the Western Balkans, internship schemes have failed to develop widely despite a shared interest of the various stakeholders.

<table>
<thead>
<tr>
<th>Internships program are getting lot of attention…</th>
<th>…but still face many challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>• From universities:</td>
<td>• Academic constraints</td>
</tr>
<tr>
<td>– Most TEI in the region are accredited or</td>
<td>– Internship schemes are</td>
</tr>
<tr>
<td>in the process of accreditation, according</td>
<td>generally designed at the</td>
</tr>
<tr>
<td>to Bologna criteria, which require practical</td>
<td>faculty level only,</td>
</tr>
<tr>
<td>experience as part of the curriculum</td>
<td>without a unified</td>
</tr>
<tr>
<td>– Internships generally last 1 to 3 months</td>
<td>approach</td>
</tr>
<tr>
<td>maximum often during the summer period</td>
<td>– TEI are sometimes</td>
</tr>
<tr>
<td>• From students:</td>
<td>unwilling to develop</td>
</tr>
<tr>
<td>– Internship are currently done mostly on a</td>
<td>long internships as this</td>
</tr>
<tr>
<td>voluntary basis and may be open to longer</td>
<td>reduces the time</td>
</tr>
<tr>
<td>internships</td>
<td>allocated to courses in</td>
</tr>
<tr>
<td>– Some students do “voluntary work” in</td>
<td>the curriculum</td>
</tr>
<tr>
<td>companies to compensate for lack of</td>
<td>– Framework constraints</td>
</tr>
<tr>
<td>internship</td>
<td>– Many countries lack a</td>
</tr>
<tr>
<td>• From companies:</td>
<td>clear legal framework for</td>
</tr>
<tr>
<td>– Interviewed ICT companies are most often</td>
<td>internship</td>
</tr>
<tr>
<td>already receiving some students and</td>
<td>– Unified contract type is</td>
</tr>
<tr>
<td>recognize the benefit of internships</td>
<td>not generally available,</td>
</tr>
<tr>
<td></td>
<td>making developing an</td>
</tr>
<tr>
<td></td>
<td>internship difficult for</td>
</tr>
<tr>
<td></td>
<td>firms</td>
</tr>
<tr>
<td></td>
<td>– Companies constraints</td>
</tr>
<tr>
<td></td>
<td>– ICT companies are</td>
</tr>
<tr>
<td></td>
<td>generally of small size</td>
</tr>
<tr>
<td></td>
<td>and have limited capacity(1)</td>
</tr>
<tr>
<td></td>
<td>– Internship of less than</td>
</tr>
<tr>
<td></td>
<td>3 months do not allow</td>
</tr>
<tr>
<td></td>
<td>companies to benefit fully</td>
</tr>
<tr>
<td></td>
<td>from the presence of</td>
</tr>
<tr>
<td></td>
<td>interns</td>
</tr>
</tbody>
</table>

Notes: (1) Efforts of governments to make internship necessary may be hampered by capacity constraints on the private sector side.
Successful internship programs rely on the development of a collaborative approach between Government, Universities and the private sector.

**Initiate:**
- Internship programs need to involve all social partners agreeing on shared framework
- *Policy role:* define framework of participation and bring together partners

**Support:**
- Responsibilities of the various players need to be defined
- *Policy role:* set up intermediary bodies and define support mechanisms

**Set up / Operate:**
- Independent institutions usually define and operate programs according to the framework

**Evaluate:**
- Programs need to be reviewed
- *Policy role:* collect data and propose evolutions
Case study: France has set up a unified and structured framework involving all social partners

### General description

- Internship are relatively common place in France
  - Most engineering schools and schools of business have set up some forms of partnerships with private companies
  - Many schools have made internship a mandatory part of the curriculum
- No unified agreement existed on internships:
  - Some concerns were raised about the low educational value of some of the internships
- A Memorandum of Understanding setting up the framework for internship was signed in April 2006 by:
  - The Minister for Labour
  - The vice-minister for higher education and research
  - The employers associations
  - The associations of SMEs, of Art and Craft companies and of self-employed workers
  - The conference of Dean of Universities
  - The conference of “Grandes Ecoles” and the conference of engineering schools
  - Representatives of student unions
- This document defines the rights and obligation of the various parties

### Main provisions of the MOU

- Definition of the internships:
  - Internships can only be related to the course of studies
  - Internship can not be assimilated to employment
- Obligation of the State:
  - Write and distribute a “guide” to all stakeholders
  - Set up a statistical monitoring tool
- Obligation of the student:
  - Student need to write, if it is required, a thesis in due time that may remain confidential if needed
- Obligation of the company:
  - A mentor needs to be nominated within the company
  - An internship certificate need to be filled with the missions performed
- Obligation of the education institution:
  - Define the objectives of the internship
  - Support the student before and during internship
  - Evaluate the outcome of the internship
- Provision of the internship contract:
  - Definition of the activities of the intern
  - Start and Finish date
  - Wage and other benefits (if any)
  - Monitoring process for the intern
Canada’s internship program includes a series of incentives and careful monitoring of the outcomes.

### General Description

- Youth Employment Strategy was launched in 1997 by the Human Resources and Social Development department of the Government of Canada.
- The YES program involves thirteen Government departments and agencies, in partnership with private firms, non-profit organizations and local communities.
- Actions are grouped under 3 different initiatives: “Career Focus” helps post-secondary graduates develop advanced work skills and find careers in their field of study; “Summer Work Experience” provides support to employers to create summer employment and Skills Link helps disadvantaged young people find employment.

### Support provided by the State

- Government provides wage subsidies to the companies taking interns:
  - Duration (max. 1 year for Career Focus) and nature of activities must be described and impact on the skills of participants must be clearly outlined.
  - Cost covered include wage based on prevailing minimum wage rate as well as other employment-related costs.
- Government as set up Sector-specific Councils who run the program. A particular stream for SMEs was set up.
- Search engine for internships has been included in the Job bank of the Ministry of labor.

### Evaluation of the program

- Survey of the results of the program are done systematically and focus on three aspects:
  - Satisfaction: survey among students and employers to assess the quality of the program.
  - Outcomes: evaluation of the improvement of skills and employability of the students.
  - Statistical evaluation: impacts of the various programs on time in school and full and part-time employment and on earnings.
- In particular, additionality of the measures is particularly assessed.
- Evaluation lead to several redefinition of the program design.
In the Western Balkans, State support to internship programs was minimal. No government-led initiative to promote internships seem to have developed in the Western Balkans:

- Some companies do offer matching between companies and potential interns
- USAID has set up a similar project within its “Competitiveness Project” in Macedonia

No structured support for internship project is currently provided by Government:

- In some countries, public institution support internship programs by offering internships to students

No evaluation of internship has been put in place by the Government:

- Current (unpublished) assessment done by ETF in Croatia on internship programs and their impact on youth employment
- No other study seems to have been done on this particular subject
At the operational level, internship programs tend to fall along the lines of 2 main models

### Internship models

<table>
<thead>
<tr>
<th></th>
<th>Optional</th>
<th>Integrated</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Duration</strong></td>
<td>3 to 4 months</td>
<td>6 to 12 months</td>
</tr>
<tr>
<td><strong>Timing</strong></td>
<td>Any year (summer)</td>
<td>Before last year of studies</td>
</tr>
<tr>
<td><strong>Integration with curriculum</strong></td>
<td>Optional</td>
<td>Mandatory or allowing to earn credits</td>
</tr>
<tr>
<td><strong>Matching mechanism</strong></td>
<td>Support or Selection of students/companies</td>
<td>Support</td>
</tr>
</tbody>
</table>

### Main rationales for the choice of a model

- **Effectiveness**: Many employers report that 3 to 4 month internships are not sufficient to train an intern and for him to be fully operational
- **Labour market conditions**: Possibility to develop mandatory internship schemes depend on the capacity of private sector to offer position to all students
  - In Sweden, universities facing issues of students not finding internships withdrew from this type of measures
- **Impact on curriculum**: integrating internship within courses of study makes it necessary to adapt the curriculum
  - For integrated internship, relevance to field of study needs to be monitored
- **Inter-institution cooperation**: Integrated scheme makes cooperation between institutions more difficult to organize

Although integrated model allows for a better outcome for student and companies, optional model seems better adapted to the labour market situation in the Western Balkans
Based on best practices, actions could be set up at the national level or at the regional level through a collaborative approach.

- **Initiate:**
  - Governments in the region should contribute to giving visibility to an initiative to develop internships through a seminal declaration of intention regrouping social partners.

- **Support:**
  - Supporting institution to develop internship scheme should be identified and, if necessary, created based on existing initiatives in the region.
  - Set up of incentive schemes, in particular to ensure that SMEs can offer internships could be considered.

- **Set up / Operate**
  - Internships in Western Balkans universities are currently of the “optional” model. A regional mechanism for match-making could be set up based, for example on the model of the START program in Romania.

- **Evaluate**
  - A survey should be done in the region to evaluate the current situation and potential for development of internships.
CONCLUSION
Human Capital Development is one of the key challenges for the competitiveness of the ICT sector in the Western Balkan and cooperation between education institutions and the private sector need to be reinforced for this challenge to be met.

Based on the experience in the OECD countries and on review of the situation, 2 initiatives that could be adapted and launched in the region have been identified:

- Schemes to promote employees training could be designed;
- Internship programs could be developed.

In each of these studies, avenues for further actions have been identified.

The OECD wants to focus its work for the next 6 months on the area that has the highest priority for stakeholders.

During the rest of the working group, regional initiatives will be presented as well as examples and best practices from OECD countries.

Throughout discussion during the working group and in subsequent feedback, the participant, the OECD want to identify.