Increasing attractiveness of Macedonian ICT sector to Foreign Direct Investments

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Preface

This report has been realized as a part of the International Business Development Program (IBD) offered by the Walter A. Haas School of Business at the University of California at Berkeley.

For eighteen years now, the Haas School has been sending talented, experienced teams of MBA students overseas to work for a variety of companies. Multinational corporations such as Ford, Lucent, Bechtel, Bertelsmann, Citibank, Qualcomm, Motorola, Hughes Aerospace, and Levi Strauss & Co., as well as smaller companies such as Behn GmbH of Germany and Accu Computer in Ghana, have hired teams of Haas MBAs, coordinated by international experts, to provide thorough, precise assessments of competitive, market and economic conditions.

Nonprofit organizations such as The World Bank and IFC have also incorporated teams into their projects. The Grameen Bank of Bangladesh has had teams of Haas students each of the last five years to assist its efforts to improve the country's standard of living through innovative investments in people and infrastructure. A Zimbabwean game preserve, seeking to improve the well-being of the people in the surrounding villages, also turned to a Haas team for advice.

For more information about the IBD Program, please visit the website at:
http://www.haas.berkeley.edu/HaasGlobal/IBDindex.htm

This report is the result of a 6-months consulting project with the collaboration of Cisco, who sponsored the project, the Government of Macedonia, to which this report is addressed and MASIT, the Macedonian Agency for Information Technology, which played a critical role in supporting us with the local stakeholders.

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Executive summary

Macedonia lags behind its neighboring countries in terms of Foreign Direct Investments (FDI) level and in terms of Information and Communication Technologies (ICT) Readiness.

The comparatively low level of FDI in the country is mainly explained by to factors: Awareness and Attractiveness. First, Macedonia is often off the investors' radar due to its small size and to the low awareness of the general public. Secondly, the country needs to improve its attractiveness through promoting Education, reforming Institutions, fostering Entrepreneurship and seizing current opportunities.

The following recommendations are critical to increase attractiveness of Macedonian ICT sector to Foreign Direct Investments.

Raise Awareness	• Carry on with the public relations' initiatives to increase the awareness among foreign investors • Extend promotional efforts to the general public, i.e. tourism
Improve Education	• Invest in education through three major phases: getting connected computers to classrooms, training teachers and creating e-learning materials • Implement international certification programs for English and computing skills
Reform Institutions	• Increase public tender's transparency and set appeal committee independent from the Government • Reform the Agency for Electronic Communication and set it independent
Foster Entrepreneurship	• Coordinate the various initiatives to create a structure that offers all the resources necessary to building successful companies • Foster an entrepreneurship climate
Target low hanging fruits	• Promote broadband competition through incentives to encourage On.net, Cabletel and other competitors to Maktel • Focus on call centers as a solution to decrease the high unemployment among the semi-skilled workforce • Build on recent FDI successes and position Macedonia as attractive to ICT companies servicing the automotive sector

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Introduction

Macedonia is a transitioning economy in the midst of reforms. While recent efforts by the government have led the country to achieve macroeconomic stability and economic growth, Macedonia still lags behind other Balkans countries in terms of Foreign Direct Investments (FDI) & Information and Communication Technology (ICT) Readiness.

Figure 1: Macedonia relative position in terms of FDI and ICT readiness
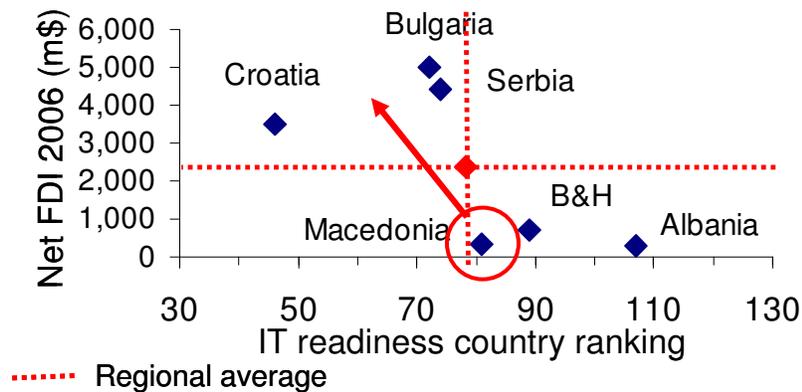
Sources: Global ICT Readiness report 2007 & EBRD transition report 2007

This report presents the key learnings from our analyses as described in the Methodology section. Based on our findings we propose a set of recommendations that encompass both short-term measures which can yield results soon and long-term initiatives which will accelerate Macedonia's attractiveness and improve its economical position in the Balkans peninsula.

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Methodology

Primary research

The team has investigated a wide array of information sources to ground its analytical work. First, we relied on the abundant literature discussing economic development and the role of IT as a growth engine. Second, we leveraged many publications from MASIT, which informed us on specific aspects of Macedonia and on the initiatives recently undertaken by the public and private sectors. Third, we researched generalist and specialist media sources to better understand the perception of Macedonia on the international scene.

Secondary research

The team adopted a three steps approach to tackle this project. First, we conducted an analysis of countries comparable to Macedonia in terms of size and business environment, which have succeeded in recent years in developing their ICT sector. We identified 4 countries relevant to the scope of our analysis: Costa Rica, Estonia, Israel and Slovenia. The objective of this phase was to identify common or key factors patterns among these countries that could explain the success stories. Once these factors were identified, we eliminated those which were not adaptable to Macedonia.

For each country we identified their key success factors, competitive advantage and investigate the role of the government in stimulating the countries attractiveness.

Secondly, we interviewed a wide spectrum of ICT companies in order to not only better understand their decision making process when it comes to investing outside of their home country, but also to identify which type of company fitted best with Macedonia's profile. We limited our sectorial focus to three categories: Hardware manufacturers, Software developers and Business Process Outsourcers. Also we

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interviewed companies with different size ranging from regional champions to large Multi National Corporation.

These first two phases enabled us to formulate hypotheses on how to stimulate foreign direct investments in Macedonia.

Our last step consisted in meeting with local stakeholders in Macedonia for three weeks. The phase primarily consisted in testing and adapting our recommendations to Macedonia. We identified the following groups as the key stakeholders:

- Government bodies, particularly the ministry of Information, the ministry of Foreign Direct Investment and the agency for FDI, to leverage their expertise and to avoid redundancy
- Macedonian ICT companies' executives to quickly gain business insights about the challenges in the ICT sector
- University representatives from the faculty of Information Technology, Economics and e-business from the leading universities in Macedonia, to understand the strengths and weaknesses of the educational system
- Non Governmental agencies, primarily USAID and IFC to understand their perspective on general economic and business environment in Macedonia and learn about their current initiatives
- Foreign Capital investors, to understand their investments criteria, their forecasts and to identify key barriers to investments in Macedonia

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Section I.: Key Learnings

I.1) Case Studies

We looked at several examples of other countries that have succeeded in creating a comparatively large and successful domestic ICT sector. In this section we summarize the key learnings from these cases. Our analysis identified three dimensions that are essential to developing the ICT industry and to attract Foreign Direct Investments: Government Initiatives, Education and Entrepreneurship.

Figure 2: the three cornerstone to attract FDI in the ICT industry

Education

Government Initiatives **Entrepreneurship**
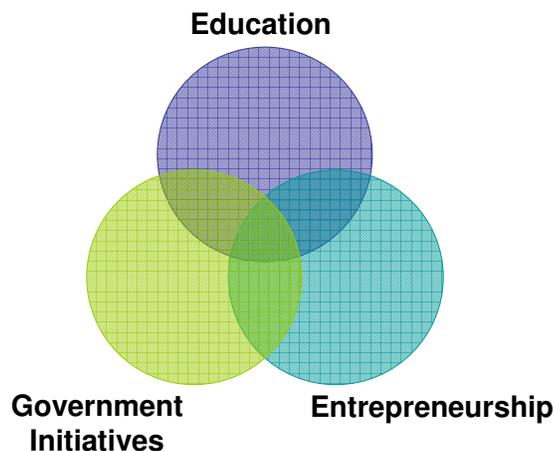
- ### Government initiatives

Slovenia. Slovenia implemented a host of policies fostering the local ICT sector since its independence[1]. It is worthwhile pointing out that the government itself took a lead in this process. The many steps undertaken by the Slovenian government include a push for complete computerization (during 1990's) and a unified internet presence (since 2000) of all government institutions. In addition, a Government Center of Informatics was created in 1993. The center's aims were to plan, introduce and assure e-commerce solutions in the public administration (based on a unified data communication infrastructure and open and interconnected information systems inside the administration with enterprises,

citizens, institutions at home and abroad)[1]. These two initiatives nicely illustrate the need for an integrated coordination of the various policies.

These early institutional adoptions of information and communication technologies led to high adoption rates among the Slovenian population (data for 2006[2]):

- Mobile subscription rate of c.90% of population
- 65% of all households use a computer
- c.40% of all households use a broadband connection (mainly ADSL)
- 60% of the Slovenian population use the internet
- 15% of all households use online banking
- Virtually all enterprises employing more than 50 staff use the internet, more than three quarters use broadband connections

The Slovenian government continues to implement initiatives to foster its ICT sector[1]. A separate Ministry of Information Society was created in 2001. This ministry develops and coordinates policies promoting the Slovenian information society. Already in 2001, the Act on Electronic Operation and Electronic Signature (2001) was introduced. This act provides a basis for electronic access to public data files and to the administrative register. The one-stop shop initiative in turn facilitates the establishment of new enterprises and provides SME companies with a central information source. The ministry also supports the Chamber of Commerce of Slovenia initiatives, which promote electronic commerce among businesses for instance.

- **Education**

Slovenia. With a host of small steps, the Slovenian governments firmly established the use of information and communication technology in the Slovenian society. This development was helped by an emphasis on higher education. These measures have thus led to a reasonably healthy and competitive local ICT sector. However, the government has also protected the local sector from international competitors, leading to repeated confrontations with the European Union. As a result, the Slovenian ICT sector is dominated by local SME's and has attracted little foreign direct investment[1].

The education policies formed an integral part of the wider ICT strategy. For instance, by 2004, approximately 99% of the Slovenian schools were connected to the world wide web[4]. Additionally, the government has encouraged and supported graduate studies and vocational re-education (see graph below).

Figure 3: Higher education graduates in Slovenia (1995 to 2005)
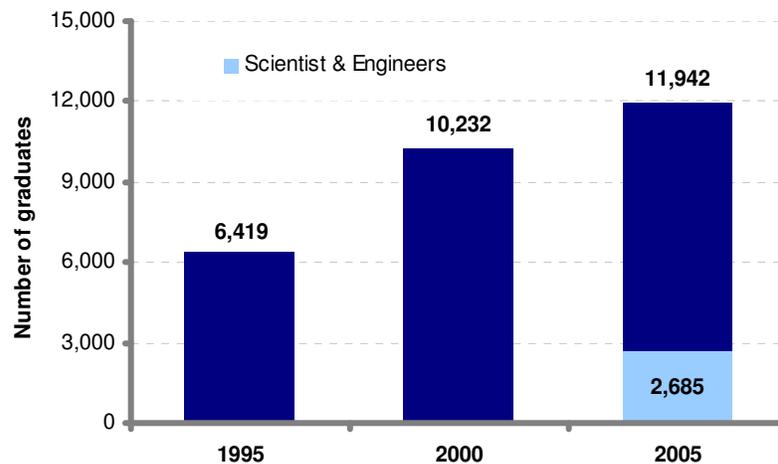
Source: Statistical Yearbook of the Republic of Slovenia, 2006

Estonia. Estonia is certainly one the most successful countries in developing its ICT sector. Estonia is ranked third in Central and Eastern in investment per capita (behind Hungary and Czech Republic), has one of the highest degrees of connectivity in Europe and is now part of the mobile phones manufacturing supply chain.

Estonia focused on ICT as an enabler rather than an export sector; incorporating ICT into existing development strategies and goals (health, education, poverty etc…). Since its independence in 1991, Estonia initiated a series of actions to develop its ICT sector:

- De-monopolizing the telecom industry (especially the wireless sector)
- Cooperation with Nordic countries to establish legal & regulatory frameworks in order to attract FDIs
- Support ICT in rural areas through incentives to ICT providers (right now, rural people can offer products on local versions of Ebay)
- Encourage local entrepreneurship (example of Microlink, Skype)
- De-politicizing the computerizing issue by involving NGOs.

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Estonia is also considered to be an example in the way in integrated ICT in the educational system. The following table summarized the initiatives taken by Estonia during the last ten years.

The Estonian case: deep dive into the educational program
The Tiger Leap initiative
Goal: increase the quality of Estonian school education utilizing modern ICT

	Tiger Leap programme 1997-2000	→	**Tiger plus development plan** 2001 - 2005	→	**Learning Tiger development** 2006- 2009
Main focus	Supported innovative e-learning initiatives of schools, universities and other institutions				Developp e-learning and various e-learning related content services
	Computers and internet connections	→	**Teachers training**	→	**Electronic educational materials**
Goals	1/ modernise the ICT infrastructure of educational establishments 2/ provide necessary software 3/ give basic skills to teachers		Highlight ICT competency assurance for all students and teachers		develop a web-based learning management system
Actions	1/ Joint funded computer procurement with local counties 2/ Provided schools with 61 different electronic courseware (39 were in the Estonian Language) 3/ Involved local governements, schools, parents and NGOs 4/ Supported 172 development and training projects		1/ Established the Tiger Leap Computer School initiative where teachers with computer skills started to teach others 2/ Pushed the creation of electronic educational materials, in-service training and support of teacher cooperation and exchange of experiences 3/ The training included the creation of educational materials and web pages (Intel computers at school)		
Results	1/ 68% Estonian teachers participated in basic 2/ 100% schools had computers 3/ 75% schools had online internet connections		1/ 75% teachers received advanced computer training 2/ 90% of our learners had acquired the expected ICT competencies: 3/ 50% teachers had used educational portals to obtain educational information and materials		

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- **Entrepreneurship**

Costa Rica. Despite its small size and limited resources, Costa Rica was successful at attracting international companies such as Intel, Motorola and Siemens, and building respectable IT & Electronics clusters.

In the late 1990's Costa Rica initiated a fast transition from an agricultural economy to an ICT economy. The strategy of the government was to create Competitive ICT clusters. To succeed 5 parameters are essential: Political stability, an attractive fiscal regime, accessibility, an attractive infrastructure and a skilled labor force. The government used two main levers to compete on these 5 dimensions: Education and Economic reforms.

First, the government set up an attractive fiscal regime by creating Free Trade Zones with low (if any) tax rate; no restrictions are imposed either on imports or revenue repatriation. In addition the constitution mandates that 6% of the national budget is dedicated to the judicial system.

Second, significant effort was put into improving accessibility. While the road and transport infrastructure remains weak in Costa Rica, particular attention has been dedicated to infrastructure between ports, airports and the Free Trade Zones.

Third, the technology infrastructure was greatly developed through large investments in internet connectivity and initiatives such as the Information Technology Act, the creation of the National Center for High Technology (CENAT) and MAYA-1 project.

Fourth, the government promoted the education of a skilled labor force. Focusing on engineers, business managers and technicians, the government invested heavily on computer skills training and foreign language (English) from high school onward. It is worth noticing that the constitution stipulates that a minimum of 6% of GDP is spent on education.

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As a result, through the improvement of these 5 parameters, Costa Rica has been able to attract and retain several ICT multinational companies with modest investments such as Motorola or Siemens, which are grouped in ICT clusters and foster an innovative and entrepreneurial environment. Also, Costa Rica managed to attract Intel to invest massively in a new manufacturing facility.

Today, Costa Rica is ranked third among Latin America countries in the Technology Index for innovation, international technology assimilation and technological goods export.

The country is also among the 30 leading exporters of high-tech products in the world. (Global Competitiveness Report 2001). Finally internet access in Costa Rica is the most advanced of the Central American countries.

Israel. In 2003, 55% of Israel's exports were high technology, compared with the OECD average of 26%. Tech giants such as IBM, Motorola and Cisco have research centers in Israel, which is also where Intel developed its Centrino chip. Four key factors contributed to turning Israel into a center of entrepreneurship and innovation that compares in many ways to the famous Silicon Valley.

The first factor is government support, which started with government grants in the 1970s and includes the BIRD (Bi-national Industrial Research & Development Fund), a joint American-Israeli initiative that supported many start-ups before institutional funding such as venture capital was widely available). The BIRD Fund is the backbone of the country's R&D/Innovation/Technology Strategy.

The second factor is promoting education through the army. "The army gets hold of everybody at age 18, and if they have a glimmer of potential, it catalyses their transformation into engineers or scientists," says Mr. Mlavsky, chairman and founder of Gemini, a big Israeli VC fund. For comparison, Israel has 135 engineers per 10,000 employees, compared with 70 in America, 65 in Japan, and 28 in Britain.

The third factor relates to the entrepreneurial mindset. Entrepreneurs are allowed to keep any intellectual property that they develop, which results in many spin-outs. Also, the small size of Israel's home market is also, paradoxically, an advantage. While a

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British start-up, say, will look to its home market to get started, Israeli firms cannot. Accordingly, they look to America for customers, so that Israeli start-ups function as "mini-multinationals" from the off and are instantly exposed to the world's most competitive high-tech market. Similarly, Israel's relative lack of land and resources serves to steer entrepreneurs towards high technology instead. Interestingly, around 5% of start-ups in America are headed by repeat entrepreneurs (aka serial entrepreneurs) compared with around 30% in Israel.

The last factor is the emergence and development of Israel's venture capital (VC) industry and High Tech clusters, which was first enabled by a set of background structural conditions (2nd half of 80s), such as:

- Large Pool of qualified Scientists and Engineers, and Universities capable of adding to this flow
- The prior existence of a Civilian High tech industry with experience in Research & Development (R&D) Projects/Innovation
- Strong prior Ministry of National Economy (MNE presence in Israel (Motorola, IBM, DEC, Intel, etc)
- Existence of a number of Communications Equipment companies (Tadiran, ECI, Fibronics, PhaseCom, etc) which generated spin-offs during thee 90s e.g. NiceCom subsequently sold to 3-Com
- Restructuring of the Military Industries
- The prior existence of the Backbone, Horizontal program supporting ('regular') R&D in the Business Sector
- Special Institutions (Army, etc)
- Liberalization of Capital Markets during the 80s, and of the economy more generally speaking
- A successful price stabilization program

There were also pre-emergence conditions and triggers (late 1980s-1992; 1993-1994), such as:

- Globalization of Capital and Asset Markets-enhanced opportunities for US technology companies out of the US to float in NASDAQ (Israel was quick to make use of such opportunities)

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- Globalization of US Investment Banks and their searching for opportunities in Israel
- Individuals (foreign and returning Israelis) coming to Israel to search for new investment opportunities in High Tech
- Business Experiments with the new model of High Tech
- Acceleration of Rate of Startup Formation: 1988–1992
- New Government Programs, some of which were Targeted to VC: The Inbal program (1991 & subsequently discontinued), Magnet (1992), Technology Incubators (1991) and Yozma (1993–1997), which helped start Israel's VC Industry
- Adaptation of the Institutional & Tax frameworks
- Government Experimentation and Learning

Finally, the development of Israel's VC industry and High Tech clusters was furthered by conditions assuring learning and cumulativeness (1993–95/6; and beyond), such as:

- The Gulf War and initiation of the Peace Process-which contributed to reduce Israel's isolation, making it more attractive for business and investments
- Implementation of Yozma which created 'critical mass'
- Continued Implementation of 'Backbone' R&D Support Scheme; and to some extent, impact of Technological Incubators (and Magnet Program)
- Immigration from the former Soviet Union – a large number of engineers and medical doctors settled in Israel and worked in High Tech
- New Innovation opportunities world wide, particularly in Communications, due to the ongoing IT Revolution and to the Liberalization of Telecommunications
- Cultural Shift favoring entrepreneurship
- 1990-1998: emergence and development of a distinct high tech cluster largely modeled on Silicon Valley lines

I.2) Foreign investors

In order to better understand the key criteria and processes of investment decisions of leading global ICT companies, we contacted 30 companies and gained

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significant insight from these interviews. These interviews made it clear that the criteria employed differ materially from subsector to subsector.

- **Networked services**

These companies follow their – generally multinational – customer base. These companies only tend to open local offices in the larger ICT markets in Western Europe and Northern America. While the Macedonian market is by far too small for these companies to invest in, their perception of Macedonia is also at least outdated, if not ignorant, thus highlighting the need for improved PR.

- **Business Process Outsourcers ("BPO")**

BPOs generally assess the labor market for depth, skills and costs, as they intend to scale their operations quickly. While the Macedonian labor force is rather skilled for its costs, the market for a skilled work force remains thin due to the small number of graduates with the required skill set. This insight highlights the need for Macedonia to produce more graduates with these skills desired by BPOs. The current labor market situation, however, should still make the country attractive to smaller outsourcers (e.g. call centers, please refer to section III.).

- **Transaction based services**

In general our interviews revealed that most decision makers do not even have Macedonia in mind as a potential place for investment. The knowledge about the country is minimal and in most cases a distorted memory of the misunderstandings of 2001. We view the "Invest in Macedonia" campaign as a critical step to amend the current view held by a majority of the opinion leaders in the multinational companies we talked with. The successful Irish PR example of the 1990's illustrates that Macedonia will have to maintain, grow and further improve this campaign for several years.

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Section II.: Fostering a long-term successful ICT sector in Macedonia

       Governments can play a pivotal role in creating a strong ICT sector. Elements of the "Rebirth in 100 steps" program seem to have the potential to significantly improve the prospects of the Macedonian ICT community. Numerous challenges remain, chief among them a timely, non-Partisan implementation, transparent execution and a strong coordination with the key stakeholders in this industry.

II.1) Government Initiatives

- **Independence of telecoms regulator / Agency for Electronic Communication ("AEC")**

       Our interviews with both potential foreign investors and ICT companies in Macedonia made it clear that an independent and transparent telecommunications regulator is a cornerstone of a thriving local ICT sector. We encountered material concerns with respect to the role of the AEC. Regulation was viewed as favoring the incumbent telecom operator, Maktel. In this regard the government is seen as conflicted and self-serving as a shareholder in Maktel and its regulator. The appeals process as well is generally regarded as time consuming, opaque and favoring the incumbent. Potential foreign investors in turn require transparency and neutrality and view the lack of it as an impediment to an investment in the country.

       Most Western European countries have liberalized their telecommunications regulator over the past two decades as required by the European Union. As a consequence, there are a number of blueprints that the Macedonian government could follow. Most notably, the International Telecommunications Union ("ITU"), the United Nations agency for information and communications technology, has published a set of best practices for the liberalization of a country's telecommunications sector (ICT Regulation Toolkit, http://www.ictregulationtoolkit.org/en/index.html). Following these guidelines and practices would allow Macedonia to create the needed transparency and efficiency at the telecoms regulator as well as to reinstall the confidence in the agency

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that is needed to comfort potential foreign investors. The effect liberalized telecommunication markets and a strong and unbiased regulator have had on the ICT sectors of the respective countries is noteworthy (see graph below).

Figure 4: Fixed line call prices in EU15
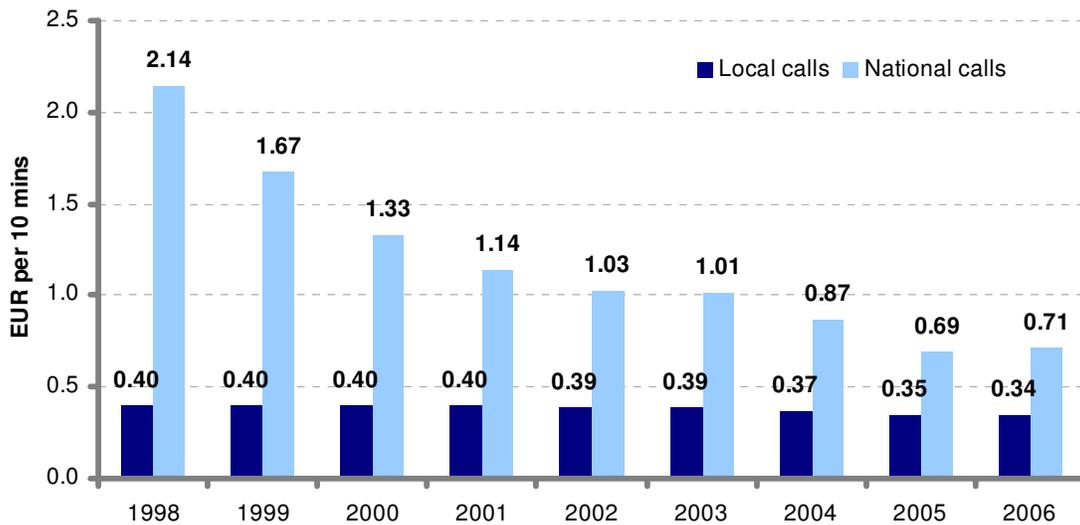
Source: Eurostat

- **Increase attractiveness**

We identified four dimensions on which the government should focus to improve Macedonia's attractiveness to foreign investors: Capital & Equity, Public Procurement, Doing Business and Customs & Visas.

On the Capital & Equity dimension, the first step is to protect the investors against default payment risk. From our interviews with local entrepreneurs and international investors, it appeared that the laws dealing with capital protection were not adapted to international standards and not sufficiently enforced. The second step consists of promoting the use of the patent office. Many entrepreneurs met in Macedonia did not know that Macedonia had a patent office, or did not know how to protect their intellectual capital. The third step – which is a corollary to the second step – aims at enforcing Intellectual Property (IP) protection. This last step is essential. As the ICT industry relies primarily on skills and knowledge, any foreign investors will require not

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only a clear commitment of the government to protect IP but also adequate enforcement resources.

On the public procurement dimension, the main feedback we received from key stakeholders in Macedonia emphasized the need for a transparent public procurement bidding process. As an example, the bidding process for the government initiative to equip schools with computers and train users has been frequently described as opaque. Not only, the bidding methodology and decision criteria were not clear but also no feedback was provided to unsuccessful bidders. We strongly encourage the government to increase the transparency of its procurement process and to develop a feedback process. In a second step, it is essential to ensure the independence of the decision committee from any political interests. Finally, the appeal committee needs to be set independently from the both the government and from the initial decision committee.

Regarding the business climate, two initiatives would result in dramatically increasing the ease to do business in Macedonia. First, an entrepreneur/Investor start-up portal should be developed. This portal consists in aggregating all available information regarding the different steps necessary to establish a business in Macedonia both from a legal and practical stand-point, i.e. which forms to complete in which governmental agency, and also how to buy real estate, hire employees, etc…

This portal will serve two aims. From the entrepreneur perspective, it will represent the portal to understanding how to do doing business in Macedonia and also a troubleshooter to answer any questions related to operating the business. From the government stand-point, this guide will serve as a formidable tool to identify areas which are excessively bureaucratic, to design a roadmap to simplify business procedures and more broadly to shift from an administrative-centric model to a business-centric model.

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Figure 5: Administrative-centric model
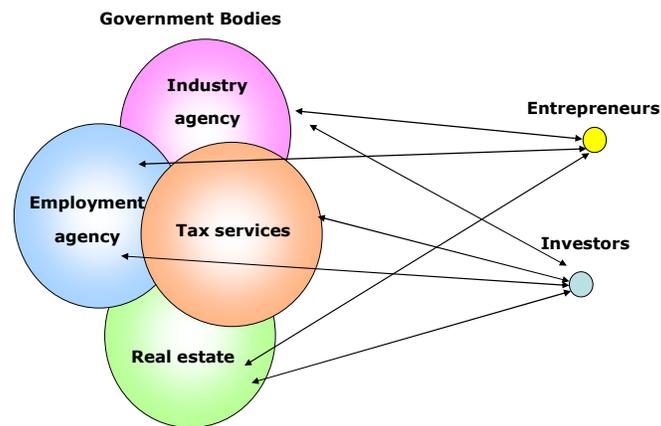
Figure 6: Business centric-model
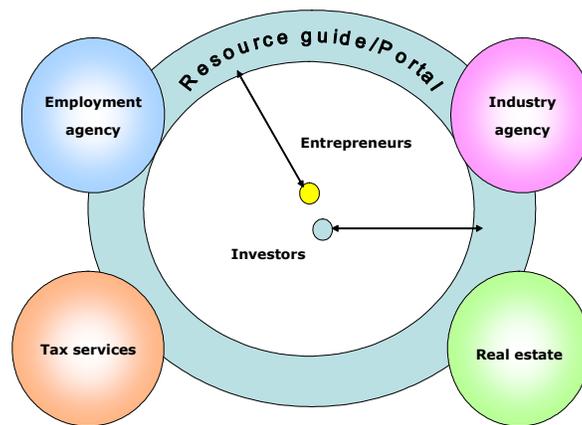
The second suggestion in order to improve the ease to do business consists in adapting the incorporation costs to the local salaries. As of 2007, it costs twice as much to establish a company in Macedonia than in other Balkan countries[5]. Adjusting these costs would lower the barrier to entrepreneurship in Macedonia and would provide further alternatives to foreign investors.

The last dimension relates to the Customs & Visa procedures. Macedonia is located centrally in the Balkan Peninsula and can therefore play the role of a regional cross-road for goods. However the waiting time at the border of export goods is three times higher than in OECD countries[6]. While the soft side of ICT may not be impacted, hardware manufacturers as well as Fast Moving Consumer Goods (FMCG) companies definitely pay attention to such impediments. Lastly, the lengthy and cumbersome Visa

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process limits the possibilities for local business to travel and grow their business internationally as well as weakens knowledge transfer through Education.

Improving all the above dimensions will not be sufficient to attract foreign investors. In parallel to improving the business climate, Macedonia also needs to raise the awareness that the country is becoming evermore attractive.

- **Raise awareness**

Public relations are essential to promote Macedonia's increasing attractiveness. The recent Initiative "Invest in Macedonia" along with the focus of the government through two "FDI" dedicated teams is already yielding significant results. To further gain from the engaged efforts, the government should consider setting a cross-functional team which will identify all key issues raised by foreign investors through the campaign and tackling each issue. This team will collaborate with key stakeholders from all government bodies in order to design solutions to investors concerns. Ideally this team should participate to the design of the entrepreneur/investor portal mentioned above. Second, a light CRM system should be created to systematically collect feedback from the campaign and dispatch it to the relevant bodies in a timely fashion.

Beyond the "Invest in Macedonia" campaign, the government should also consider promoting tourism more proactively. The first positive effect from investing in tourism is that by increasing the general public awareness, the traffic to Macedonia will increase and will lead to better transport infrastructures. Second, tourists should also be considered as potential investors, therefore, investing in tourism, is an indirect channel to promote Macedonia to investors.

Third, we recommend promoting education workforce standards as is discussed later in the long-term recommendation regarding education. After meeting with university representatives and students, we were impressed by the quality of technical and communication skills of students.

In addition, statistics and information regarding the economy, the business environment and demographics should be more proactively gathered and disseminated to International institutions in order to increase visibility. In particular we discovered a

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wealth of Information on the website of the national agency of statistics which are not available/updated on international institutions websites.

Lastly, we recommend launching a promotion campaign which will convey a simple message that will increase Macedonia share of mind and sticks to the target. We suggest for example publishing facts about Macedonia, called "100 facts about Macedonia". For instance, "Fact #3: Macedonia is an English speaking country", then giving a few metrics to back-up each assertion. The facts should span a wide range of topics such as Economics, Business, Culture, Tourism, Fun & odd facts.

II.2) Education

- ### Three steps approach

We have identified education as one of the three cornerstones that made countries like Estonia and Slovenia successful ones in the ICT sector. Furthermore, during our interviews in Macedonia, almost all the stakeholders have stressed the necessity of improving the current ICT education.

To embed ICT in education and achieve excellence, we recommend the government of Macedonia to take the three following steps:
- First and foremost, computers and online connection should be provided in all schools and universities in Macedonia. This step has already been started and the 100,000 computer program is one of its components
- Second, teachers and professors should be trained in using computers and internet in their day to day work in order to transmit their knowledge to their students. Knowing how to use computers and internet is only the first component: teachers and professors should have an advanced training about usage fostering the creation of educational material
- The third step is probably the one that is the most important and the most crucial one. This step stresses the necessity of developing electronic materials either by professors, teachers or professionals in the educational

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field. This step aims to promote the exchange of information between professors and teachers and puts the ICT tools at the center of the learning.

It is important to notice that these three steps should be concomitant. Training teachers and professors should start very shortly after having bought the first computers: there are unfortunately many examples where brand new computers have been bought and connected to the World Wide Web just to find out that no one really knew how to use them. Following the same logic, if educational materials are not developed and shared online shortly after the first teachers and professors are trained, the whole learning experience may not be achieved and the goal to put ICT tools at the center of learning may not be achieved.

- **Shortage in skilled ICT professionals**

Both university professors and leading company managers in Macedonia expressed again and again the same problem. There is a definite shortage in the number of ICT professionals and ICT students graduating every year. This, in itself, is not something specific to Macedonia, as there is a global shortage of ICT professionals everywhere on the globe. But all stakeholders expressed another concern: they estimated that ICT students do not have enough practical skills and that it may take another six months of practical training before they can perform the tasks they were hired for.

On top of the actions that are already planned in the "rebirth in 100 steps" document, we recommend the government of Macedonia to adopt the following elements to increase the number of ICT professionals:
- Allocate more resources / quotas to ICT departments in public universities. Right now, more resources are allocated to departments where job demand is very low and there should be some reallocation of resources to ICT department where job demand is very high.
- Stimulate private ICT schools through fiscal incentives. There is only so much public universities can do given their budget constraint and the private sector should be encouraged to invest in educating the next generation of ICT professionals.

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- Re-qualify non-ICT technicians & engineers to work in ICT departments in non-ICT companies. Instead of training non-ICT professionals to work in ICT companies, we recommend to push these people to work in non ICT companies (like banks for instance) where the need of ICT knowledge is not as deep as in ICT companies.

In addition to these actions aimed to increase the number of professionals, we recommend to implant the following to increase the students' skills:

- Institute mandatory standardized tests. Right now, students graduate with a lot of heterogeneity in their knowledge. Having standardized tests that everyone should pass may be a way to make sure that all students have the required level. We suggest three types of tests: one that would make sure that students have the basic computer and internet literacy: we propose the ECDL (European Computer Driving License – www.ecdl.com). The second one would be related to the proficiency in English and we suggest that all students should take the TOEFL test and score at least 600 points (in the paper based system). The third one is strictly ICT oriented and would consist of standardized technical tests related to Java programming, database management, networking systems etc. These tests could be developed (and administered) by partnering companies such as Oracle, Microsoft or Cisco.
- Develop mentorship and internship programs. Creating career centers with dedicated professional in each department, encouraging professors to consult in private companies and building an online database for employment are some of the key actions to generate significantly more interaction between university students and future employers.

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II.3) Foster entrepreneurship in the ICT sector

Entrepreneurship is the foundation of economic growth, productivity and national competitiveness[7] Fostering entrepreneurship, particularly in the ICT sector on which Macedonia is relying heavily, is therefore critical to the long-term development and economic success of Macedonia.

One of the biggest challenges of fostering entrepreneurship comes from the following dilemma: investors such as venture capitalists want to see successful startups before they invest; however, startup companies need capital to succeed. This dilemma is not without resemblance to the "chicken and the egg" problem: which comes first? Successful start-ups or capital?

One definition of entrepreneurship is "the process of looking at things in such a way that possible solutions to problems and perceived needs may evolve in venturing[8]". The success to fostering entrepreneurship depends on the ability to bring together all the "key players" necessary to 1. identify economically significant unmet needs, 2. find a solution that resolves those needs, and 3. build a successful venture based on that solution.

These key players can be divided in four groups:
- The customers: the customers are usually the ones who know best what they need and what they want. They are the primary source to identify unmet needs that can serve as a base for the formation of a new venture. Customers may be global ICT companies or local ICT companies for instance
- The inventors: the inventors are the people who will be in a position to find solutions to unmet needs. Such inventors may be entrepreneurs, professors, or students
- The mentors: mentors are people who are business savvy and understand the challenges of building a new venture successfully. In particular, they are able to evaluate the economic significance of unmet

needs and to determine if the market would be favorable to the creation of a new venture. For instance, such mentors know how to estimate the market size and competitive landscape and to gauge the economic chances of success of the new venture. Qualified mentors may be venture capitalists, entrepreneurs, professors, and business people from global ICT companies and local ICT companies

- The investors: investors provide the required capital to take a startup to the point where it reaches profitability. These investors must be willing to endorse the risks associated with building a new venture. Such inventors are usually venture capitalists and Angels (private wealthy investors), who are very familiar with the risks and challenges of new ventures. Some banks may also be willing to support the need for capital of new ventures

Figure 7: the "key players" for fostering entrepreneurship

Investors	Inventors
Venture Capitalists Angels Banks	Professors / Researchers Students Entrepreneurs

Customers	Mentors
Global ICT Companies Local ICT Companies	Global ICT Companies Local ICT Companies Venture Capitalists Entrepreneurs Professors

Several initiatives have been taken in Macedonia to try to foster entrepreneurship. These initiatives show an admirable effort to promote entrepreneurship; however, the current initiatives are uncoordinated and dilute both the limited talent pool and the limited sources of funding. As a result, none of those initiatives has access to enough resources to gain momentum.

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Figure 8: Strengths and weaknesses of key players

SINTEF / YES Incubator
+ Incubator
+ Business Plan Competition
+ Mentors
- Limited resources/funding
- No entrepreneur/investor/customer

Technology Transfer Center (ii)
+ International experience
+ Customers (Ericsson, etc.)
+ Entrepreneurs/mentors?
- Limited resources/funding
- Unfinished building
- No investor

MASIT Center of Excellence
+ Customers
+ Entrepreneurs/mentors
+ Local investors
- Focus on established companies
- No location/no funding

Academies
+ Customers (Cisco, Microsoft, Oracle)
+ Mentors (technical)
- No entrepreneur
- No investor

Microsoft Innovation Center
+ Customers
+ Mentors (technical)
- Entrepreneurs? Investors?

SEEU Business Development Center
+ Business Plan Competition (only academic)
- Limited resources
- Limited funding (looking for endowment)
- No entrepreneur/mentor
- No investor

Digital Media Park
+ Buildings
+ Entrepreneurs/mentors
+ Customers
- Funding? Mentor? Investors?

Each initiative shown above has access to some resources (labeled as "+") but also lacks critical resources (labeled as "-") to foster entrepreneurship optimally.

Our recommendation is to consolidate those initiatives into one entity that we will refer to as **the Macedonia Center for ICT**. Given the current resources available in Macedonia, we believe this is the most effective way, if not the only way, to bring together all the "key players" necessary to successfully develop entrepreneurship in Macedonia.

The Macedonia Center for ICT is the first stepping stone for ICT entrepreneurship in the Vardar region.

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Figure 9: the role of the Macedonia Center for ICT

Investors		Inventors
	Macedonia Center for ICT	
Customers		Mentors

The Macedonia Center for ICT brings together all the "key players" to successfully develop entrepreneurship in Macedonia

Because of the limited resources available to support it, the Macedonia Center for ICT is not without resemblance to a startup. In order to build this Center successfully, we designed a **6-step implementation process** that is inspired from the process of starting and building a company. One of the fundamentals is to start small, prove the concept and stay focused and disciplined while implementing. The key success factor is: "Prove the concept first; institutionalize later."

Figure 10: The 6-step implementation process recommended building the Macedonia Center for ICT

Management Team	Unique Site	ICT Projects	Comm. Flow	Entrepren. Climate	IP Protection

The **first step** consists in forming a small team that can be easily managed. The mission of this team is to prove the concept first, before the Center is institutionalized. Indeed, it would be a waste of time, human resources and funding to create an institution without first proving it can work. The fundamental concept to validate here is: "Put all the players in the same room and great things will happen."

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It is of utmost importance to find a "champion", i.e. a passionate leader who is also an implementer. This leader needs to have an entrepreneurial mindset, demonstrate great management skills, and have some international experience.

The rest of the team may consist of people working full-time or part-time, and maybe providing voluntary work at first. We recommend:

- 1-3 professors
- 3-7 students
- 1-3 entrepreneurs
- 1-3 investors
- 1 admin person (paid)

The **second step** consists in providing a unique site that aggregates the initiatives from all ICT entities. Such a place will create a social environment and support networking, brainstorming, and cooperation. This site should also act as an incubator and provide space and internet access to teams and projects.

Being consistent with the concept of "start small, build on success and expand over time" that makes the task accomplishable on limited resources and time, this second step should be about finding an existing site offering decent space and getting this site set up as quickly as possible. This side should be close to the university campus to facilitate access. Indeed, the main purpose of this central structure is to facilitate communication between the different players.

One of the biggest challenges will be to manage to aggregate the initiatives from the different ICT entities. One thing to keep in mind is that the Macedonia Center for ICT does not need to gather all the ICT entities to be successful; it only needs to gather all the key players.

The **third step** is to identify ICT projects and form teams to work on those projects towards forming new ventures.

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ICT projects may come from idea generations from inventors such as students, researchers, professors, from unmet needs expressed by customers, and from projects assigned by the Government.

Similarly to the team of a startup, the project teams need to be multidisciplinary teams. A way to start is to form teams of engineering, management and business students, who will work together, leveraging their individual skills and learning all aspects of starting a company. It is very important that the combined skills of the teams cover all the skills required for a startup. In addition, the multidisciplinary aspect of the teams will emphasize the need for collaboration among faculties and encourage students and faculty members from different departments to work together to achieve a common goal: turning the ICT project into a successful start-up.

The teams should be assigned mentors that will provide them with guidance and business expertise, and will help them make the right decisions, avoid pitfalls, and move in the right direction towards starting a company. Ideally, each team would be assigned two mentors: one entrepreneur and one investor. These mentors will facilitate knowledge transfer and help form the next generation of entrepreneurs.

The **fourth step** is about creating a communication flow to foster "mingling", networking, and exchanges of ideas. For example, the Macedonia Center for ICT should make sure to organize regular networking ICT events focused on specific ICT themes. These events may be as simple as having a "happy hour" at the Center every other Friday for instance. These events may also be as elaborate as inviting students and faculty members from all over the world as well as international ICT companies to compare best practices and learn from other countries.

In order to discover new talents and also to gauge the level of interest in entrepreneurship in ICT, we recommend that the Macedonia Center for ICT organize an annual ICT Business Plan Competition. This competition may be regional or national. It may be open to all or to students only. The competition should provide a monetary prize that is sufficient to get a company started. Finally, the competition would benefit from receiving sponsorship from ICT companies and government.

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Partnering with international universities is also a way to accelerate the development of entrepreneurship in Macedonia. Indeed, such partnerships may be used to promote sharing best practices and to provide training in entrepreneurship to professors and students.

The **fifth step** is to create an entrepreneurial climate and to encourage everyone to be an entrepreneur. In particular, professors should be encouraged to work and/or consult part-time, and to take a sabbatical to start a company. Students should be able to receive units of credit for working on an ICT project (independent study). Such incentives will help create a culture of entrepreneurship in universities, which are the knowledge centers of a country, and incorporate entrepreneurship in the students' education.
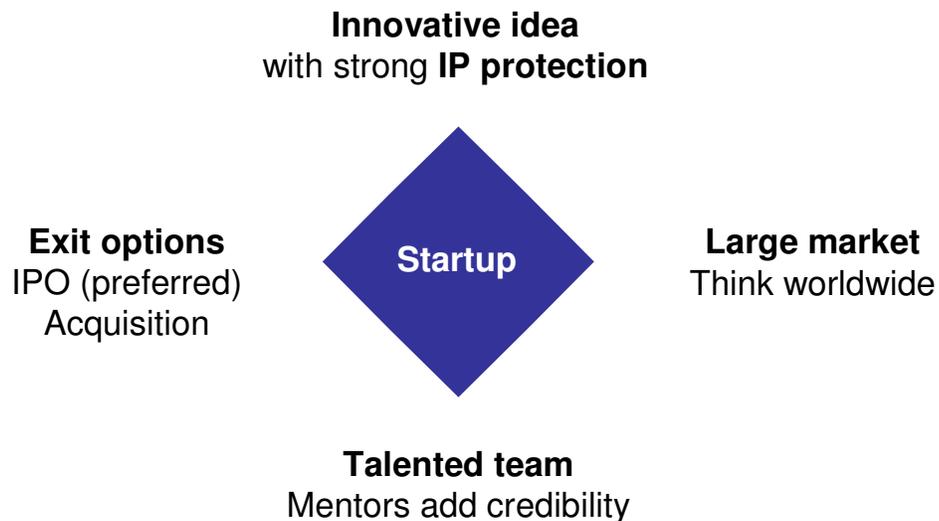
The **sixth** and final **step** consists in reinforcing the protection of intellectual property. Intellectual property is one of the core assets of a startup and a startup will not be in a position to be become a successful company if it cannot obtain a strong protection of its intellectual property. For instance, companies such as Skype would not have become so successful without a strong protection of their patents.

Efforts on protecting intellectual property need to be made at two levels. On the startup side, inventors need to be educated on how to file patents. We recommend having a team of patent specialists at the Macedonia Center for ICT to help inventors to file patents. We also recommend investigating the creation of an Office of Technology Licensing ("OTL") inside universities.

To conclude this section, we would like to emphasize the ground rules for investors to invest. When assessing a startup, investors look for:

- An innovative idea with strong IP protection
- A large market: think worldwide
- A talented team: mentors add credibility
- Exit options: IPO (preferred) or acquisition

Innovative idea
with strong **IP protection**

Exit options
IPO (preferred)
Acquisition

Startup

Large market
Think worldwide

Talented team
Mentors add credibility

Section III. Suggestions to attract Foreign Direct Investments into the Macedonian ICT sector in the short term

III.1) Broadband competition

A competitive and liberalized telecommunications market has an amplifier effect for any ICT industry, as the vast majority of these companies depend on reliable telecommunication services. The Macedonian market, however, is characterized by limited competition, higher prices and lower service levels than most European countries. More and more efficient competition would be desirable both for the ICT sector and the wider Macedonian economy.

While the Macedonian market is too small to attract another major Western Europe operator beside Deutsche Telekom when considering the small potential for

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financial gains and the threat of retaliation by the Deutsche Telekom Group, the recent investments of Telekom Slovenije clearly show that the Macedonian market for telecommunication services is of interest to foreign investors. In our view On.net does provide the best platform for meaningful competition to MakTel due to its expertise and available funds. Additional competition might arise in the mid-term from Cabletel, should it succeed in its quest for consolidation of the fragmented cable market. To attract further foreign investment into this subsector, the Macedonian government needs to create a level playing field. An independent, strong, transparent and unbiased regulator is the major step to create a more attractive and competitive market environment.

III.2) Call centers

- **Macedonia's strengths**

We believe that Macedonia has the necessary strengths to become an important call centre hub. When thinking about creating call centers, five criteria happen to be important: labor force, proficiency in foreign languages, labor cost and labor law flexibility, good ICT infrastructure and strategic focus.

First, Macedonia has abundance in labor workforce with unemployment rate varying between 20 and 36% depending on the sources. According to our calculation taking into account a 36% unemployment rate, there are about 150,000 unemployed people that graduated from high school. Second, according to a USAID study, most Macedonian students are able to work, talk and write in English. Further investigations should be done to determine the exact proportion of the unemployed population that can perform in a foreign language. Two different markets can then be addressed depending on the language proficiency. Those who can speak international languages should be targeting international markets.   Those who can't should target the Serbian and Bulgarian markets, since there are a lot of similarities between the Macedonian language and the Serbian and Bulgarian languages. Third, Macedonia has the same level of wages as in China and the labor law is flexible enough for companies to adapt the hiring and laying off cycles to their business seasonality and cycle. The fourth

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criterion is also met since Macedonia has a good ICT infrastructure, ensuring telecommunication and internet connections in major cities where call centers would be developed. Finally, developing the call center industry in Macedonia has not been a strategic focus until recently. This may explain why call centers are not flourishing in Macedonia when neighbors such as Bulgaria and Serbia have been able to attract call centers.

- **Steps to become a call center hub**

We recommend the government of Macedonia to take the following steps:

Figure 12: implementation steps

1- Strategic focus: the government of Macedonia should make it public that call centers are a priority. Local and international investors, as well as the general public, should be aware of all the initiatives the government is working on concerning call centers. Special resources should be allocated to this focus and a task force should be led at a prime minister level.

2- Assess language skills: In order to target the right markets in terms of languages, a full evaluation of the workforce language proficiency should be done. This step can not be skipped since it is one of the first questions that off shoring companies usually ask when it comes to call centers.

3- Target the right market: on top of focusing on markets in terms of language, Macedonia has also to think about which segment of the call center market it can target given its experience in the field.

The graphic below shows the different market segments: market research activities for example demand fewer skills than telemarketing, technical support or advanced sales.

Figure 13: Roadmap for ICT services

We believe that Macedonia should focus during the first phase on customer care and basic sales since both activities require lower language proficiency and skills in general. The learning curve should be important and we estimate that by 2012, Macedonia can position itself in high added value activities such as technical support and advanced sales, Macedonia can move even faster if it devotes enough resources to training.

4- Build public relations: once call centers become clearly a priority and that Macedonia knows where it wants and can position itself, officials should start building professional contacts through road shows, presence of trade shows related to call centers and advertisement in international publications such as Financial Times and Wall Street Journal.

5- Attract a champion: all efforts should be focused on attracting one global company to implement a call center. We recommend the involvement of the prime minister to prove to the foreign investor the commitment of the whole government to the initiative. We also believe that the first global investor should have a "red carpet" treatment: this investor may have (fiscal) advantages that would not be granted to the next investors.

Costa Rica for example has been successful in ICT after it convinced Intel to invest in a factory. Morocco has become a call center hub after it persuaded Dell to develop a 2500 seat call center in Casablanca.

6- Capitalize on the word of mouth: once Macedonia attracts its champion, it should leverage this asset and target competitors, suppliers and other actors in the same sector. This step is important but of a relative easiness once Macedonia would have attracted its champion.

III.3) ICT for the automotive sector/ specialized software

The recent successes of attracting foreign investors in the automotive sector could provide a promising stepping stone for ICT companies with customers in this sector. On the one hand, sophisticated testing equipment manufacturers (e.g. Agilent, Fluke) could find the combination of low-cost skilled labor, tax breaks and nearby customers appealing. On the other hand, customized software and service providers could view the same mix combined with software expertise in Macedonia attractive. These companies tend to be unaware of Macedonia's recent successes with in this industry, illustrating the need for customized targeting of these firms.

Closing remarks

Macedonia appears to be on a promising track vis-à-vis government policies that promote an ICT ready populace as well as a thriving and competitive local ICT sector. However, the country has some way to go in this respect. A transparent and unbiased implementation will be crucial for its success.

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Appendix 1 – Chosen answers from interviews

1) What is your process to invest in a foreign country?

"Diverse. Key personnel includes country / regional VP & business development. Senior management only involved to promote benefits of company locally. There is a formula that is applied to long list companies, incl. market size, education level, GDP among others." *Equipment manufacturer*

"There is a strategy group [that] that addresses such issues. We take such decisions with a very long term in view. Even though the "opportunity" is not always the local market. No definite time frame, [one to two years]. We start small and slowly and then build up." *BPO*

"This is the Company process for launching a product in a new country; the information on investing in a country (for example in a manufacturing plant) can be found in questions 5 and 9
- The Company has to be ready to expand
- There needs to be a global alignment among the different product lines
- The Company contacts external entities to gather market data: quantitative (2-3 sources, compare between 2 years ago and now), qualitative (what does customer want to do with the product?), and drivers
- The Company identify which country offers the best opportunity based on the market data and the product the Company is developing
- The Company runs a "Go to market" study and determines how the products are sold in this country. The Company also looks at the competitive landscape and the local brands. Finally, the Company determines how to position the product (distribution channel, advertising)
- The Company looks at financials: financial planning, breakeven analysis (gross margin to cover fixed costs, market share to break even)
Then the Company contact its suppliers, as the Company contracts out most of the manufacturing)
Finally, the Company contacts retailers that match its product positioning strategy"

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Large international consumer product company

2) What is the typical range of investment budget for your company?

"Recent acquisition in Latin America: c.$200m, network services company, strong cost saving case, complementary services. Recent acquisition on Indian subcontinent: $20m to $30m, managed network services company, small, high growth, serve existing customers & big local market." *Networked services provider*

"Ballpark figure for initial investment: $10m." *Equipment manufacturer*

"$0 to $100m." *BPO*

"Less than $100m. We either acquire local companies or start new ones from scratch." *BPO*

"Not disclosed" *Large international consumer product company*

" Around $50m for the initial investment." *Electronic manufacturer*

3) Are you currently considering investing abroad?
"Constantly. Time frame varies. Opportunities evaluated over no longer than 5 year horizon due to investor preference." *Equipment manufacturer*

"Right now we are expanding in Latin America and to some extent in Eastern Europe." *BPO*

 "Always. *BPO*

"Yes. Places not disclosed" *Large international consumer product company*

"Yes, we are going to invest in Romania in the next two months." *Electronic manufacturer*

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4) What type of activities to you consider easier to relocate?

"Client services, but also [training / entrepreneurship centers]: spread knowledge, work with universities, develop ICT programmes. The company works with SMEs to introduce ICT innovations and Western management styles." *Equipment manufacturer*

"Production and client services." *BPO*

"Development centers and call centers" *BPO*

"Manufacturing/Assembly" *Large international consumer product company*
"Manufacturing" Electronic manufacturer

5) Are you considering / have you considered investing in CEE?

"Yes, big markets, where the company's customers are." *Networked services provider*

"Yes. E.g. Baltics. Single countries not long listed by matrix screen, but then grouped into Baltics, as most advanced (ICT) community. Other attractions included social drivers (low unemployment, diversity), management styles." *Equipment manufacturer*

"We started off in [a larger CEE country] with a Development Center. Now we are also in [another larger CEE country]. We have about 400 persons in [the first country] and serve European clients. Occasionally they also service clients in other parts of the world. - Availability of talent, especially the strong Central & Eastern European tradition of excellence in mathematics; membership in the European Union." *BPO*

*"*Yes, Romania for example" *BPO*

"Yes; invested in several countries: Czech Republic, Romania, Hungary, and Poland. The Company has lots of suppliers in Eastern European countries; list not disclosed for confidentiality reasons.

The Company is on its way out of Czech Republic because prices are going up; the Company is looking for cheaper countries in Eastern Europe to move manufacturing plants.

Note that televisions not manufactured in EU are taxed 14%, so the Company looks for local suppliers/manufacturers.

The Company likes to work with suppliers that have plants all over the world, for consistency among the products

Case study: why did the Company decide to invest in Mexico?

- Flexibility in manufacturing: production is based on demand forecast; manufactyring needs to be adjusted quickly and cheaply if demand varies a lot compared to forecast

- Asia: very expensive to ship by air; slow to ship by boat"

Large international consumer product company

"Yes, Romania and Hungary because they are in a low cost region but we also invest in Sweden, France, Germany and Czech Republic" *Electronic manufacturer*

6) When at an investment opportunity, what are the key characteristics you are looking for?

"3 criteria: 1) Follow customers (most important) 2) Low cost labour 3) Achievable growth rates. Government flexibility viewed skeptically: must be above suspicion of corruption (think PR implications)." *Networked services provider*

"Management style, education level, diversity, absence of discrimination, learning curve & positioning on it. Do employees need to be repatriated?" *Equipment manufacturer*

"Costs first, but I would say "good" resources and not "cheap". The cheapness is not a sustainable advantage. Government flexibility second. Tax breaks almost a non-issue, because these can change very quickly." *BPO*

"Every country offers tax-breaks, so it not an investment criteria for us. We look at   1) Multi-language skills (English, French and Spanish) 2) Technical skills 3) Scale (number of educated people, engineers)   4) Stability (crime, governement interference)." *BPO*

"1) Labor cost

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2) Supplier base: where are the components? Complements? If parts are far away, shipping is expensive

3) Labor skills

4) Labor turnover: need managers and engineers who speak English. If there is scarcity/labor shortage, those employees tend to move from one firm to another a lot (for better pay) and this affects product quality

5) Logistics: how to physically enter/exit the country? Customs, access? Presence of roads? Road conditions?

6) Government: need to allow for customs on plant site, to speed up import/export process; need to have efficient customs

7) Presence of suppliers: should be present and close together, to minimize shipping and maximize flexibility

8) Factory sharing: is there a possibility to share factory? What complementary business is there?"

Large international consumer product company

"Total cost (production + taxes + shipping) is the main criterion. Then comes 1) Flexible labour law and low cost labour 2) Local market and connection to other neighboring markets 3) logics and infrastructure (power & water)." *Electronic manufacturer*

7) What are the most important barriers to investing?

"Whether there is high quality manpower available that is stable, process-oriented (in terms of producing high quality software) and English-speaking." *BPO*

"Absence of suppliers. Note that the Company asks its suppliers to do most of the manufacturing, which is why the Company needs suppliers to be present in the country to consider investing" *Large international consumer product company*

8) What is your perception of Macedonia?

"No specific perception of Macedonia, but region viewed as marred by corruption, unemployment and brain drain." *Networked services provider*

"Bad PR. Low knowledge level. Focus should be on promotion of infrastructure level, education level and progress. Successful tourism campaign can help as tourists are next

day's decision makers. Reversing brain drain is important. Returning expats must have access to real estate." *Equipment manufacturer*

"No perception at present." *BPO*

"None. I do not even know where it is" *BPO*

"I do not know much." Electronic manufacturer

9) If you were to invest in a foreign country, what would be the most important criteria on which you will base your decision?

"Macroeconomic environment, political stability, corruption, [our] impact on standard of living, returns / time to breakeven." *Equipment manufacturer*

"Quality of higher education institutions   10; Number of higher education graduates in desired field   10; Competitive wage structure   8; Political stability   6; Relationship with local government   6; Geographic location   10; Local law enforcement   10; EU membership   10; Training initiatives   6; Economic stability   8; Tax incentives / tax breaks   6; Local market size 1; Regional market size 3; Trade agreements   8; Free Trade Zones   10; Local Incubators 3; Access to/from sites   8; Connectivity   8; Local crime rate   10" Note: 1 – not important, 10 – very important *BPO*

"See Question 6. Also the investors are attracted by:
- High Tech clusters
- Supplier base: for example, plastic molding of quality
The Company has a lot of factories in Eastern Europe; suppliers not disclosed to protect confidentiality of information on volume, part costs, etc.
The Company has headquarters in Prague (Czech Republic, Romania, Hungary, Poland)
The Company is on its way out of Czech Republic because prices are going up; The Company is looking for cheaper countries in Eastern Europe to move manufacturing plants" *Large international consumer product company*

"Labor laws, taxes and capital mobility" *Electronic manufacturer*

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