ICT COUNTRY PROFILE

KOSOVO

2013

REGIONAL COMPETIVENESS INITIATIVE
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I. EXECUTIVE SUMMARY

The purpose of this report is to provide a look from outside at the ICT development in the country and to reveal the possibilities for regional ICT cooperation in competitiveness improvement. A research of this kind could clear up what kind of activities related to ICT are held in the country and what national strategies, policies and action plans for ICT development are conducted.

For the purpose of this report and with the aim of facilitating further research the author has used relevant sources of information on the subject such as reports, analyses, legal documents published in English, action plans, statistics, and strategies, found in internet.

ICT is both a vertical sector with a high potential for growth and employment in its own right and a “horizontal enabler” that can contribute to the growth of all sectors across the economy. There are several factors revealing the competitiveness potential of the ICT sector in Kosovo. One of them is the increase in the investments in almost all sectors of the economy which would inevitably lead to higher demand for new Information and Communication Technologies. Investments in the development of promising sectors of the economy on the one hand and institutional support for modernization, technology development and innovations in sectors with potential for development on the other will increase the demand for qualitative ICT products and services and enhance the competitiveness and stability of Kosovo economy.

Other factor is the increase in the investments in education on engineering subjects. The latter will improve the quality of graduated ICT professionals and increase the trust in the country as competitive and reliable partner and supplier.

Kosovo has the youngest population in Europe which gives great potential for development in all kinds of industries. In that connection the high quality of technical university education is leading to a relatively high number of IT specialists ready to invest their knowledge in improving and maintaining the steady growth of the sector.

Concerning market and investment safety and stability it is important to note that some of the largest international ICT companies such as Microsoft, HP, IBM, and Cisco have already found their partners among Kosovo ICT companies.

For the last ten years the number of internet users and IT services has rapidly increased. The state remains the biggest customer of ICT products and services. The hardware technology used in the private sector is mainly based on CISCO, IBM, Huawei, NERA, Iskra Transmission, Airspan, Motorola, Tsunami, etc. Software systems are mainly built on Microsoft and Linux platforms. On its way towards EU integration Kosovo has formally liberalized its ICT networks and services through the Law on Telecommunications from May, 2003.
II. ANALYSIS OF THE ICT SECTOR IN KOSOVO

A. PAST, PRESENT AND FUTURE TRENDS

Education and employment
The increasing need of skilled ICT professionals in Kosovo is reflecting, besides the increasing progress of the industry, the world trend of undersupply of skilled specialists in the field of software development, programming and ICT services delivery. The number of ICT graduates grows each year but it is still not enough and the quality of graduated specialists is in question.

The national leader in providing the workforce for the industry is the Faculty of Electrical and Computer Engineering of the University of Pristina. ICT professionals are also supplied by the University for Business and Technology, the American University in Kosovo, as well as a few vocational education providers.

The ICT professionals in Kosovo receive their qualification in three types of institutions:

- National universities (private and state universities) - The State University of Pristina, American University in Kosovo, University for Business and Technology and AAB Riinvest University.

- Universities abroad.

- Private VET centers (vendors’ training centers, independent training centers, in-company training centers).

The most demanded skills, which according to the employers are missing in the graduates, are the combination of technical/engineering and soft (team/person management, communication, interpersonal, problem solving) skills. The employers are filling this gap with additional training – in and out of the companies. An interesting finding is that most of employers -76.5% prefer to train their staff within the company. The companies spend many resources on the training of their employees – the inquired by Kosovo ICT Association (STIKK) companies assess that the training needs per employee take a period of between 1 and 9 months and a cost between 1000 and 70,000 EUR per person.

On macro level the main reason for the gap between supply and demand of workforce in the ICT industry according to Skills Gap Analysis for ICT (STIKK, March 2011) lies in the lack of coordination between the main stakeholders – there is no developed and structured dialogue and relations between academia/policy makers and industry on the one hand and between academia/policy makers and VET organizations on the other.

On micro level - the other reason for the shortage of the qualified graduates is the lack of traditions in adopting European and global good practices in the academic and vocational training. ICT specialists who graduated abroad are well distributed among the companies in Kosovo. It may be inferred that those specialists are participating and managing the in-company training delivered to new hired employees, but if the specialists graduated abroad are motivated to contribute to the national education system it could be a key factor to achieving effective and modern academic education on information technologies.

As the average salary levels are similar to these in the region and due to the high demand for ICT specialists in Kosovo there is no evidence of brain drain in the country. The average number of employment in ICT private sector is 8% in 2012. The highest paid positions in the private sector companies are System Administrators, Business Development Managers and ICT Managers, while most represented are Telecommunication Networks Engineers, followed by Software and Application Programmers and ICT Project Managers.

According to a Kosovo Private Enterprise Program’s (USAID-funded project implemented by Booz Allen Hamilton) survey from 2010, the companies operating in the ICT field are mainly small to medium size companies consisting of less than 20 employees.

2 Skills Gap Analysis for Information and Communication Technology, STIKK, March 2011
Supply and demand

The core business activities of the majority of ICT companies are concentrated on vendor hardware and software (23%) trade and outsourcing; and software development and programming (22%)³.

Source: Skills Gap Analysis for Information and Communication Technology, STIKK, March 2011

The number of the locally owned companies in Kosovo is about 80%, while the foreign owned companies are less than 10%.

As of September 2011, 138 companies were registered in the Ministry of Trade and Industry for ICT related activities that include:

- Sale and support of computers;
- Telecommunication;
- Development of software;
- Providing consultation on information technology;
- Cabling.

About 95% of the companies are registered in Prishtina. The companies are individual businesses while one third are Limited Liability Companies (LLC), less than 5% are Limited Partnerships, and Joint Stock Companies comprise less than 3% of the companies in the sector. The rest of the enterprises are either public companies or are included in the category of NGOs.

More than 60% of the ICT companies in Kosovo import goods and services such as hardware, software, hosting, etc. necessary for their activities. In sales hardware holds the first place, followed by software, services, and sales from consultancies.

In terms of infrastructure quite steady progress in the implementation and expansion of the use of optic cable for the communication networks is observed, linking regional centers and moving on to smaller towns as well. The private sector infrastructure is built mainly of optic, coaxial, and microwave network, which covers almost the whole Kosovo territory.

Most of the ICT companies are targeting their expansion mainly locally. Even exact data in international benchmark studies about Kosovo ICT export lacks, the Kosovo companies are facing many problems in trading and expanding abroad. Among these problems are visa regimes, work permits and adequate market research.

As an emerging country Kosovo has a chance to utilize the potential of the ICT in enhancing its economy. The country had to build its ICT infrastructure in the last years, which made the government a dominant ICT customer

³ Skills Gap Analysis for Information and Communication Technology, STIKK, March 2011
and developed the potential of the local ICT companies to undertake or participate in large scale projects. Many of those projects were implemented by world leaders in ICT domain, with significant support of international institutions applying the most modern technologies. The estimations of Crimson Capital in ICT market report show that in 2013 the state will spend about €60 million more for ICT products and services than private organizations.

The contribution of the donor organizations is powerful input for the Kosovo ICT sector. Besides the programs oriented directly to the Kosovo Economic Development as IPA and EU RED recently Kosovo was accepted as an eligible country for participation in most of the central EU programs as Seventh framework program, CIP, some of Life Long Learning schemes etc.

IDC Adriatics expects the IT Market in Kosovo to expand 2.6% year on year in 2012 and to grow at a compound annual growth rate (CAGR) of 4.0% across the five-year forecast period. IT spending is forecasted total $153.91 million in 2016.4

Regarding the development of Information Society utilization of IT in the private sector and in society as a whole is underdeveloped. It is estimated that only 1/3 of the total ICT spending is created by the private sector while the public sector consumes the remaining 2/3 of the ICT spending (Abdullahu, 2010). The low income and high unemployment are some of the reasons for the low ICT demand generated by non-public sector.

Despite the significant public investments in ICT, the availability of the public e-services delivered to citizens is still low. There are a number of factors that can explain this situation summarized in two basic groups:

I. The initial government investments have been focused in building “heavy” information infrastructure that in the near future will be a base for e-services delivery.

II. The public funds have been invested mostly in internal administration processes, but not effectively targeting citizen-centered model of development.

Various researches (Abdullahu, 2010; BuddeComm, 2011; Skills Gap Analysis for Information and Communication Technology, 2011) forecast steady growth of the Kosovo ICT sector that can support the overall competitiveness of Kosovo economy. In case the high levels of public ICT spending are focused on delivering quality and available public e-services, the positive effects to the Kosovo ICT sector and the economy as a whole will be significant in several areas:

- Reduced administrative e-burden to the economy resulting in high competitiveness.
- Higher adoption of ICT by the citizens and businesses that will result in increased demand for ICT.
- Kosovo ICT companies will be able to gain higher share of the public projects since e-services development and delivery are more intensive for country-specific competencies, compared to large infrastructural projects.

Due to the global economic crisis Kosovo exports fell with more than 15%, direct foreign investments fell with a little more than 20%, and remittances with about 8%. However, the drastic fall of exports did not affect seriously the overall growth of the country and ICT industry in particular, due to the relatively small share they have in the country's GDP of about 5%.

Per capita IT spending in the country stood at $70 in 2011 while the regional average was $146.5

The telecom industry in Kosovo is liberalized and legislation is introduced adopting EU regulatory principles and promoting competition. However, Kosovo still does not have its own country code and the network operators in Kosovo use one of three options: Monaco (+377), Slovenia (+386) and Serbia (381).

In terms of mobile communications Kosovo has a growing number of operators – two network operators and a couple of mobile virtual network operators present on the market. Postpaid and prepaid tariff options are both available, as well as services such as SMS, MMS, GPRS and EDGE. Due to the increasing competition in the mobile

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communications market in Kosovo, supporting the growth and expansion of the services, the penetration levels for 2010 were estimated to nearly 90% with almost 75% of the population subscribed to mobile phone services.

The two GSM 900 MHz networks are PTK (Vala Mobile) (+377 Monaco prefix), and IPKO (Si Mobitel) (+386 Slovenia prefix). The two virtual operators are D3 Mobile and Z Mobile.

Some of the main internet providers are PTK; IPKO and Kujtesa. It can be expected that the EU regulatory framework for communications, which promotes competition, as the most efficient way to offer qualitative communications products and services, while ensuring universal access, will continue to play a positive role for the IT development of Kosovo.

Internet penetration in Kosovo is in the process of steady development due to healthy competition and mainly due to government policies and strategies adopted with the aim to reach the maturity of the neighboring countries and EU integration. Broadband accounts for the majority of Internet connections, with ADSL, cable and wireless available. According a survey of STIKK for internet connectivity and usability 72 % of the Kosovo households has internet connection at home. In 62 % of the households more than two persons use internet, 60 % of the internet users are satisfied from the quality of the internet connection. The behavior of the users varies from use of internet for entertainment and communication through education to Information society services.

Currently there are three main internet service providers - PTK; IPKO; Kujtesa, and a few smaller ISPs.

**Competitiveness indexes and data**

Despite the fact that many single sources of information about the Kosovo ICT development are available, it is very difficult to use such information for international and regional comparison and benchmarking. There is no clear definition of the ICT sector in many analyses. Where such definition exists it is not mapped to the international statistical accounts. As a result, the values of some parameters vary in wide ranges and comparison with other countries and sectors is difficult. The lack of international benchmarking and verified ICT related indicators could be considered as barrier to international investors and could contribute to increase of the potential risk associated with the country.

**Comparative data of the ICT competitiveness indexes of the SEE countries**

<table>
<thead>
<tr>
<th></th>
<th>WEF GCR index Rank (value)</th>
<th>GCR innovation Rank (value)</th>
<th>WEF GITR Rank (value)</th>
<th>EGov. Development Rank (value)</th>
<th>E-participation Rank (value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albania</td>
<td>88(3,94)</td>
<td>121(2,57)</td>
<td>87(3,56)</td>
<td>85(0.4519)</td>
<td>86(0.1286)</td>
</tr>
<tr>
<td>Armenia</td>
<td>98(3,76)</td>
<td>116(2,63)</td>
<td>109(3,24)</td>
<td>110(0.4025)</td>
<td>135(0.0429)</td>
</tr>
<tr>
<td>Azerbaijan</td>
<td>57(4,29)</td>
<td>61(3,16)</td>
<td>70(3,79)</td>
<td>83(0.4571)</td>
<td>68(0.1714)</td>
</tr>
<tr>
<td>BiH</td>
<td>102(3,70)</td>
<td>120(2,59)</td>
<td>110(3,24)</td>
<td>74(0.4698)</td>
<td>135(0.0429)</td>
</tr>
<tr>
<td>Georgia</td>
<td>93(3,86)</td>
<td>121(2,51)</td>
<td>98(3,45)</td>
<td>100(0.4248)</td>
<td>127(0.0571)</td>
</tr>
<tr>
<td>Kosovo</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Macedonia</td>
<td>79(4,02)</td>
<td>97(2,88)</td>
<td>72(3,79)</td>
<td>52(0.5261)</td>
<td>55(0.2143)</td>
</tr>
<tr>
<td>Moldova</td>
<td>94(3,86)</td>
<td>129(2,49)</td>
<td>97(3,45)</td>
<td>80(0.4611)</td>
<td>58(0.2000)</td>
</tr>
<tr>
<td>Montenegro</td>
<td>49(4,36)</td>
<td>45(3,48)</td>
<td>44(4,09)</td>
<td>60(0.5101)</td>
<td>76(0.1571)</td>
</tr>
<tr>
<td>Serbia</td>
<td>96(3,84)</td>
<td>88(2,93)</td>
<td>93(3,52)</td>
<td>81(0.4585)</td>
<td>135(0.0429)</td>
</tr>
<tr>
<td>Ukraine</td>
<td>89(3,90)</td>
<td>63(3,11)</td>
<td>90(3,53)</td>
<td>54(0.5181)</td>
<td>48(0.2571)</td>
</tr>
</tbody>
</table>

The competitiveness indicators of Kosovo, measured through the World Economic Forum, UN agencies, WB and IMF competitiveness indexes show that the country has still a lot of work to do in order to be able to compete with its neighboring countries and the developing countries from the region. The SME Development Strategy 2012-2016, issued by SME support agency, encourages the use of information technologies (fully utilizing electronic communications, and applications in e-business, e-procurement and computer-aided manufacturing etc.) as main enabler of SMEs competitiveness.
Research and development and innovations

According to National Research Programme (NRP) in Kosovo, RTD in general is still a marginal undertaking, missing even the most basic statistics on science and technology\(^6\). Like other EU and non-EU countries the lack of funding is shown as basic reason for low levels of spending for research and development activities. According to the Law on Scientific Research (Assembly of Kosova, 2004), 0.7% of the GDP shall be allocated from the budget of Republic of Kosovo, for fulfilling the necessary conditions for scientific research and for providing the means to undertake scientific research.

Universities and colleges are the main representatives of the research community in Kosovo – in 2012 there are 13 academic organizations which declared that they have RTD activities related with ICT and other 7 private companies and 1 research organizations conduct RTD activities.

In addition to policy support to RTD the role of Innovation Center Kosovo for encouragement of research and innovation environment in Kosovo is very important. Innovation Centre Kosovo (ICK) was founded to support entrepreneurship, innovation and commercially based business development, with a focus on information and communication technology. The centre supports both start-ups and existing companies with the potential for growth. ICK is playing a role of a hub for connecting new ideas and technology with human and financial resources to create or expand commercially viable companies that can successfully fill the needs in the market, generating sales, trade, local productive capacity and skilled employment.

Innovation Centre Kosovo offers incubator services, mentoring, consulting and training to entrepreneurs and managers in business planning, accounting, finance, product/service development, marketing/sales, human resources, technology development and transfer and matchmaking with local, regional and international businesses. Among the main supporters of ICK are Athene Prosjetledelse, Norwegian Ministry of Foreign Affairs, STIKK, USAID and others.

B. ICT ASSOCIATIONS

For a relatively short time, Kosovo ICT sector was able to organize itself and to establish a focal point for developing public-private dialogue within the country. The Kosovo Association of Information and Communication Technology (STIKK), established in 2008, plays an active role in the ICT sector communications and development.

STIKK’s Core Principles:

- Development of an independent and objective association focused solely on the needs of all its members and society in general;
- Implementation of value added activities that increase the profile and organization of the entire ICT sector;
- Dedication of necessary funds to enable full time staff and allow reasonable time for the Association to become sustainable and operational;
- Focus on revenue generating activities, best practices in the region, integration into regional and European markets.

The Association serves as a main source of information for the ICT sector and major player for the private part in the ICT development of the sector. The Association has managed to position the Kosovo sector in major international networks and platforms such as:

- SEE ICT Private Sector Forum (http://www.seeictforum.org/default.aspx)
- Pan European ICT and Business Network for SMEs (http://www.pin-sme.eu/)
- World Information Technology and Services Alliance (http://www.witsa.org)

Among the STIKK initiatives, we can point out the effective lobbying for removing the custom taxes on ICT goods.

In conclusion, the Association is a major stakeholder in the country that is well recognized by the international community and is an example of effective non-governmental organization not only in Kosovo, but also in the whole region.

\(^6\) Kosovo ICT RTD Technological Audit Report, STIKK, UPR, SEERC, URSIT
Kosovo Chamber of Commerce - http://www.oek-kcc.org
The Kosovo Chamber of Commerce is a leading business association established in 1962 from the Assembly of Kosovo. Its main role is to legally represent the interests of the business community in Kosovo. It is a non-profit, independent organization, working under the objective of improving the market economy, entrepreneurship and triggering competition between its members. The Chamber members operate in different sectors of the economy including Technology, Telecommunications, Construction, Banking and Insurance, Metal Processing, Wood Processing, Food and Beverages processing etc. Kosovo Chamber of Commerce has been certified with the ISO 9001-2008 and is committed to ensure good quality management practices and deliver services that satisfy the member’s expectations.

Center for Entrepreneurship and Executive Development – CEED promotes entrepreneurship and entrepreneurial experiences by synergizing efforts with key entrepreneurial stakeholders. It inspire, support and encourage entrepreneurs in their growth, access to financing, international expanding and development of new markets. CEED provides entrepreneurs and their executive teams with the know-how and networks they need to accelerate the growth of their businesses and promotes entrepreneurial culture in the broader society. CEED Kosovo is part of the international network of CEED centers with offices in Kosovo, Bulgaria, Macedonia, Romania, Montenegro and Slovenia. CEED is a legacy institution of USAID and SEAF, born out of USAID grant funding in SME equity investments made by SEAF throughout the Balkans, and EBRD in Slovenia.

C. PROFILE OF SELECTED COMPANIES

Even the challenges faced by the ICT companies in Kosovo, Information and communication technology industry in Kosovo, has experienced a remarkable development since 1999. From being almost non-existent 10 years ago, Kosovo companies in the Information technology (IT) domain offer today wide range of ICT services to their customers both local as well as to foreign companies.

First ICT companies in Kosovo can be found as early 1984, these companies where mainly focused on radio telecommunication and audio-video systems, while in early and mid 90’s more companies were created, mainly specializing in personal computer sales. ICT industry in Kosovo boomed after 1999 with a lot of new companies being created, among which IPKO which now one of the major telecommunication providers and one of the biggest foreign investments in Kosovo.

ICT in Kosovo consists of relatively young companies (most of them incorporated after 1999) and with predominantly small companies with less than 20 employees. 53.8 percent of ICT companies are individual business while limited Liability Company (28.6 percent). Businesses specializing in maintenance and manufacturing are purely individual, while other sub-sectors are served by a mix of individual and LLC businesses. Other forms of incorporation are rare, with 4.4 percent being Limited Partnership, and 2.2 percent Joint-Stock Company. The rest (5.5) are either public companies or have the unusual status of NGOs. Currently, the ICT companies are determined to grow and prosper within the Kosovo market, while very few companies seek expansion in markets outside Kosovo.

According to TRA report, ICT industry generated 239,518,037.36€, 83.19 of which is generated by Mobile network operator, 8.37% from Fix telephony operators, 7.77% from Internet service providers and 0.68% from leased lines.

Selected list of companies is provided below:

Adaptivit IT - Engineering - http://www.adaptiv-it.com
Adaptivit IT is an IT and Software Company providing services to the regional market as well as European companies. Adaptivit software development department has a special focus on database driven applications, ERP, CRM, GIS and LBS solutions as well as online portals using state-of-the-art technologies.

ATI-KOS - http://www.ati-kos.com
This is one of the fastest growing ICT companies in Kosovo providing Wireless Internet Services, customized web-based software solutions, and Cisco/ECDL trainings for both public and private sector.
The focus of ATIKOS is to supply every household and business in the Dukagjini rural region with broadband internet connectivity, whilst providing a high level of customer services and competitive prices.

**Botek SHPK - http://www.bo-tek.com**
Botek is a specialist ICT and Energy engineering company. BOTEK supplies products, integrates technology and actively manages projects. As one of the leading companies in Kosovo in these fields, the company is committed to offering a full spectrum of engineering services to its clients from conceptual design to manufacture, installation and ongoing maintenance in the field.

**Computer TRADE - http://www.computertrade-ks.com**
Computer Trade is a company that deals with the sale, service of computers and other hardware components, we also design web pages, cart visits, advertising marketing, etc.

**DataProgNet - www.dataprognet-ks.com**
The company is established in 2004 with a clear vision for meeting the needs of public and private sector in computer services field.

**ITEG (IT, Project Engineering & GIS Solutions) - www.iteg-kos.com & www.infobiz-kos.com**
Based in Pristina, Kosovo, ITEG (IT, Project Engineering and GIS Solutions) was established in February 2009. Its mission is to deliver quality GIS solutions and products to clients in Kosovo and more broadly to the Balkan region, with the specific aim of maximizing the benefits of analyzing data in a spatial context.

**LINK Software - www.link-ks.com**
Established in 1991 in Prizren, it is specialized in producing high quality and efficient solutions to all types of businesses. The company is mainly focused in providing efficient solutions to the financial and accounting sector, especially for small and mid-size businesses.

**Logistics Plus, LLC - www.logisticplus-ks.com**
A software development and system integration company headquartered in Pristina, Kosovo. Logistics Plus develops custom software and hardware solutions based on a range of platforms and technologies including embedded systems.

**LTI “Expik” - www.expik.com**
The company was founded in 2006 in Prishtina as a consultancy company, which offers software solutions, network solutions and internet technology.

**Net Media - www.net-mis.com**
Net Media is established in March 2000 in Gjilan – Kosovo. The main activities are providing Internet Services, development of software applications like manufacturing process control, special appliance software for microcontrollers, data acquisition, multimedia CD presentations etc.

**PRONET - IT Consulting, Engineering and Telecommunications L.L.C. - www.pronet-ks.com**
A company established in Pristina, Kosovo in February 1997. It is currently a private stockholder company. Pronet offers high-quality solutions in the field of information and communication technology, solutions and products of world leading manufacturers, original hardware and software solutions, IT consulting, technical support and maintenance of IT systems.

**Pbc Kosova - www.pbc-ks.com**
This is one of the most successful IT companies operating in Kosovo. Pbc Kosova was founded in 2003, and now, after years of professional evaluation and successfully implemented projects, is one of the most respected companies in Kosovo and region IT market.

More companies' profiles could be found on: [http://stikk-ks.org](http://stikk-ks.org)
D. ACADEMIC PROGRAMS

According to the Kosovo Accreditation Agency there are currently 13 higher education institutions, public and private, accredited to offer ICT related study programs in their curricula. The technical disciplines in the curricula prevails, despite the soft skills and knowledge like business management, team working, process management, conflict management, abilities to work under variety of conditions and environments, presentation skills etc. are strongly required by the industry. Interdisciplinary approaches are also insufficiently covered in the academic programs. Fighting the consequences from the financial crisis and targeting economical development all European countries have to work for creation of enabling innovation landscape starting with development of adequate and properly educated human capital. In the Knowledge Economy, often the right knowledge to solve a problem is in a different place to the problem itself, so interdisciplinary innovation is an essential tool for the future.

The main universities in Kosovo which provides ICT programs are:

UNIVERSITY OF PRISHTINA is represented by six of its units: Faculty of Electrical and Computer Engineering, Faculty of Mathematical and Natural Sciences, Faculty of Economics, Faculty of Education, Faculty of Applied Sciences in Mitrovica, and Faculty of Business Applied Sciences in Peja. More information at: http://www.uni-pr.edu

UNIVERSITY FOR BUSINESS AND TECHNOLOGY (AMERICAN EUROPEAN UNIVERSITY – KOSOVO) - Faculty of Computer Science and Engineering - http://www.ubt-uni.net

ILIRIA UNIVERSITY – PRISTINA - Bachelor programs in Management and Informatics and Computer Sciences - www.uiliria.org

AMERICAN UNIVERSITY IN KOSOVO - AUK Training and Development Institute - www.aukonline.org

UNIVERSITY OF PRIZREN - Faculty of Computer Sciences - http://www.uni-pz.org/

E. STATE AGENCIES AND ORGANIZATIONS

TELECOMMUNICATIONS REGULATORY AUTHORITY (TRA) - http://www.art-ks.org

The main objective of the Regulatory Authority is to develop the telecommunication sector of Kosovo, and to develop information based economy and society through the implementation of policies that are consistent with the sector reforms implemented throughout the European Union and the rest of the industrialized world.

MINISTRY OF TRANSPORT AND TELECOMMUNICATIONS - http://www.mtpt.org

The Department of Information and Communications Technology (ICT) is one of six departments of the Ministry of Transport and Communications. The Department consists of a Post Division and four Sectors - Sector for Policy Development, Projects Sector, Sector of Control and Monitoring, and Sector of Standards.

SME SUPPORT AGENCY OF KOSOVO - http://www.sme-ks.org

Established under the Ministry of Trade and Industry of Kosovo the Agency aspires to become an intelligence-gathering and coordinating hub in the multi-stakeholder environment of SME policy and to be a leading and dynamic National Agency that supports and further develops a vibrant, competitive and growing Small and Medium Enterprise sector in Kosovo.

INVESTMENT PROMOTION AGENCY OF KOSOVO (IPAK) – http://www.invest-ks.org

The Investment Promotion Agency of Kosovo (IPAK) is the primary Government Institution supporting foreign investment in Kosovo. IPAK provides a wide range of support programs to help international businesses achieve their relocation objectives.


The Department of Science and Technology is part of MEST and is responsible for applying the policies of the Government of Kosovo and MEST aiming to create a good infrastructure, institutional and financial basis for the
development of science and science researches as well as to encourage the modern technology developments in Kosovo economy.

F. NATIONAL STRATEGIES AND POLICIES FOR ICT DEVELOPMENT

For a short period Kosovo has managed to adopt few very important pieces of legislation and a strategic framework to support the government’s efforts to regulate, promote and improve the development of the ICT sector in Kosovo. The relevantly well developed normative and strategic framework does not yet provide the desired effects on Kosovo ICT Industry and overall competitiveness. The relevantly well developed normative and strategic framework does not yet provide the desired effects on Kosovo ICT Industry and overall competitiveness. Some strategically important projects have not been included in the plan for ICT development. For example, there is no universal operational electronic signatures infrastructure that can be used for e-services development.

Some of the most important legislative acts that have influenced the progress of the sector are:

- **Telecommunications law** – Adopted in 2002, the law governs all telecommunications services and all telecommunications service providers in Kosovo. The main objective of the Telecommunications law is to create a transparent legal and regulatory environment for the promotion of more investments in the sector and encourage competition.
- **Law on Information Society Services** – Approved in 2005 with the aim of enabling the legal use of electronic documentation, and facilitate the implementation of e-commerce, e-signature and personal data protection.
- **Law on Administrative Procedure** – created to control the electronic implementation of the activities of public administration.
- **Law on Copyright and Related Rights and Law on Scientific Research Activity** has also been adopted in 2004.
- **Law on the Protection of Personal Data and Law on Prevention and Fight against Cyber Crime** are drafted and pending approval by the government.
- **Law for Privacy and Database Access.**
- **Law on Digital Signatures**
- **Postal Services Law**
- **Cyber Crime Law**

The strategic framework for Kosovo e-development consists of:

- **"eSEE Agenda Plus for the Development of Information Society in SEE 2007-2012"** Kosovo is an active member of the regional eSEE Initiative - (Electronic South East Europe). The main objective of the initiative is to integrate SEE countries into the global, knowledge-based economy through development of the Information Society, in line with the EU i2010 framework.
- **Electronic Governance Strategy 2009-2015** – Published by the Department of Information Technology of the Ministry of Public Services of Kosovo in 2008, ensuring the provision of governmental institutions' services through information technology and communication (WAN, Internet, mobile network) to citizens, businesses and others.
- **E-learning Strategy for Kosovo 2010 - 2015** – Prepared by the Ministry of Education, Science and Technology with the main objective to transform e-learning into an integral part of the overall national educational system.
- **Strategy for Development of Pre-university Education 2007–2017** – Adopted by the Ministry of Education, Science and Technology and used as a basis for the development of the education system of Kosovo.
- **Kosovo Education Strategic Plan 2011-2016** – Drafted in September 2010, the Strategic Plan is going to include eight priority programs among which are Capacity Building and Information and Communication Technology. The objective implemented in the ICT program is to fully develop and integrate ICT infrastructure and technical support needed to implement and sustain good educational practices.
G. DONOR PROGRAMS IN THE IT SECTORS

EU and USA provide significant funds for Kosovo social and economic development. The activities implemented under these funds cover ICT industry together with the other social and economic sectors. Only from EU, Kosovo had received €68.8 million during 2012 and expects to receive €73.6 million during 2013 for transition policies and cross-border assistance. There is no data how much of the external funds are spent only for ICT but taking into account globalization processes and development of information society and e-governance someone can conclude that the share is significant.

USAID

Kosovo Private Enterprise Program
The Kosovo Private Enterprise Program is identifying market opportunities for Kosovo products, emphasizing development of local and regional capacity to promote competitiveness, and setting the stage for sustainability of the private sector.

Center for Entrepreneurship and Executive Development
The Center for Entrepreneurship and Executive Development (CEED) provides training to entrepreneurs and mid-level executives of high-growth small and medium sized enterprises (SMEs). This activity aims to accelerate the growth of SMEs and foster the development of a more knowledgeable entrepreneurial culture through the delivery of executive training courses and networking events.

EU

EU supported regional economic development grant scheme (EURED) is emerging in Kosovo as an important model for creating sustainable development in regions while, at the same time, helping to mitigate the social costs of transition, particularly by addressing unemployment.

Swiss Agency for Development and Cooperation (SDC)
Switzerland supports Kosovo in its transition processes towards socially inclusive market economies and democratic political systems providing access to essential services, as well towards regional and European integration.

Some of the domains which the 2013-2016 Country Strategy will support are:
Democratic Governance and Decentralization, with the goal: Socially inclusive governance and quality service provision at local level contribute to Kosovo’s democratic state-building process.
Economy and Employment, with the goal: A dynamic labor market in the private sector will increase the employment of adequately skilled young people. The foreseen financial commitments for the period 2013-2016 amount to 88 million Swiss francs.

H. EXHIBITIONS, CONFERENCES AND EVENTS

KosiICT is a Regional Conference organized by STIKK (Kosovo Association of Information and Communications Technology) and each year intends to cover the global trending topics of ICT by gathering international, regional and local speakers.

STIKK, SIPPO program, GIZ and Ministry of Foreign Affairs supported the promotion of Kosovo ICT industry in the greatest information and telecommunication technology fair, CeBIT, Hannover.
I. IT NEWS: SOURCES OF INFORMATION


ITBM Group (Information Technology & Business Media Group) - (http://www.itbmgroup.com)

CIO - (http://www.itbmgroup.com/site/index.php?option=com_content&view=article&id=37&Itemid=251)


ICT Training and Certification Network: http://quality2it.org/

New Kosova Report – (www.newkosovareport.com)

III. IT FOR OTHER INDUSTRIES IN THE COUNTRY

Information technologies are vital for the economical development of a given country in the Knowledge economy era. The ICT sector could have direct or indirect impact on the country’s economy – either on the economy as a whole or influencing other key sectors and supporting enterprises to achieve higher efficiency and growth, and thus raise the productivity across the economy.

Companies in Kosovo are not specialized in the production and development of only one particular product. Thus they interfere the manufacturing of the other industries in the country and contribute to the development of the latter and to the market growth.

There are already locally developed IT solutions for various sectors such as justice, banking, insurance, wholesale, retail, production, education, etc.

A few Kosovo companies are presented on the web platform IT2Business (http://it2business.org/default.aspx), an online catalogue with successful practices and Information Technology (IT) solutions for the business, aimed at increasing the ICT competitiveness in Eastern Europe and Caucasus. The platform is designed and launched by the USAID funded RCI (Regional Competitiveness Initiative) project through the European Software Institute - Center Eastern Europe. It fosters the direct contact between the IT and other economic sectors. This enables the promotion of the local industry and the region as a whole. Currently there are 78 companies from the region offering 150 products/solutions from which 16 companies with 31 products/ solutions are from Kosovo.
IV. QUALITY TENDENCIES

Based on analyses of both private and public ICT sector in Kosovo, it may be inferred that only a few companies have implemented international standards for management and quality assurance such as ISO, IT Mark, Capability Maturity Model Integration and others.

ISO is the most popular certification in Kosovo. Businesses offering maintenance, consulting, information services, and especially those engaged in software development and vendors are extremely supportive of the idea of ISO certification. More and more of the companies in Kosovo apply for ISO standards as obligatory prerequisite for participating in some national and international procurement.

The company “Progresi” (www.cfprogresi.com) producing electrical cables, became the first company in Kosovo to receive the internationally recognized certificate ISO 9001:2000. This came as the result of a project implemented by EBRD BAS Program in Kosovo and funded by the European Agency for Reconstruction (EAR).

“Intracom” is another ISO 9001:2000 certified company with a branch of the firm situated in Kosovo (also in Macedonia and Greece) - Intracom Branch Office Kosovo. The company offers services in the sphere of telecommunications, constructions and IT solutions.

Management Development Associates (MDA) is a Kosovo based company which is ISO 9001:2008 certified and one of the many services it offers is Quality Management Consulting, i.e. technical assistance for developing and maintaining Quality Management Systems according to ISO 9001:2000 standard.

The desk research revealed a scarce look at the whole information about ISO certified companies in Kosovo. The reason is that most of the companies in Kosovo still don’t have the necessary resources or the wide spread reputation to face the steep challenges in meeting international standards or EU technical requirements. They realize the need and the forthcoming advantages of such implementation if their products are to be exported or if they want to increase their competitiveness on the international markets.

The BAS Programme of the European Bank for Reconstruction and Development financed from the EU and the Government of Netherlands also supports Kosovo SMEs to obtain ISO certification.

SPI
Until 2012 four companies from Kosovo received ITMark certification.

Under “Kosovo Economic Development through Quality and Networking” project, funded by EU Office in Kosovo large awareness campaign among more than 60 IT professionals and managers from 30 companies was implemented.

The web platform Quality2IT – Eastern Europe Training and Certification Network, provides excellent opportunities to participate in the establishment of a common regional ICT brand based on high quality and innovations. The platform is designed and launched by USAID funded RCI (Regional Competitiveness Initiative) project through European Software Institute - Center Eastern Europe. For the time being there are 19 companies with 90 services registered in the platform and 2 of them are from Kosovo.
The essence of the analysis of key macro factors that influence Kosovo ICT sector development is structured as Strengths, Weakness, Opportunities and Threats (SWOT) table below. The statements were consulted with the main stakeholders.

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
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<tbody>
<tr>
<td>• Stable economic development in the last decade.</td>
<td>• E-government services are still underdeveloped.</td>
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<tr>
<td>• Consistent ICT-related legislation and strategic framework in place.</td>
<td>• ICT employees in municipalities are technically oriented. They lack e-service specific management and organizational capabilities.</td>
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<tr>
<td>• Well organized private sector with good international representation.</td>
<td>• Insufficient coordination between the public institution and public institutions and private companies</td>
</tr>
<tr>
<td>• Mostly vendor-based, training and certification capacity.</td>
<td>• Weak coordination between training and education stakeholders.</td>
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<tr>
<td>• Growing ICT Market.</td>
<td>• Low level of public services delivery.</td>
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<td>• Good interconnectivity between municipalities, combined with availability of basic hardware and software.</td>
<td>• Insufficient awareness and implementation of process-based methodologies.</td>
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<tr>
<td>⋅</td>
<td>• Lack of objective data and benchmarking of the Kosovo ICT Sector.</td>
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<tr>
<th>Opportunities</th>
<th>Threats</th>
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<tbody>
<tr>
<td>• Availability of small number, but well educated professionals graduated abroad.</td>
<td>• Public procurement practices do not contribute to sector development.</td>
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<tr>
<td>• Youngest population in Europe.</td>
<td>• Incomplete legal and normative environment on municipal level does not support e-services delivery form the municipality to companies and citizens.</td>
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<tr>
<td>• Rapidly developing mobile and internet infrastructure.</td>
<td>• Insufficient cooperation between public and private stakeholders.</td>
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<tr>
<td>• Good level of cooperation among companies and between companies and universities.</td>
<td>• The ICT-related strategies and normative framework have not been sufficiently implemented.</td>
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<tr>
<td>• Young people are eager to learn and to be trained and certified on international recognized programs</td>
<td>• ICT graduates supply doesn’t meet the demand of the industry.</td>
</tr>
<tr>
<td>• Effective cooperation between private sector and government</td>
<td>• Low visibility of the Kosovo ICT Sector.</td>
</tr>
</tbody>
</table>
CMMI IMPLEMENTATION CAN SUPPORT FOLLOWING OPPORTUNITIES:

- Improved ICT industry image through implementation of world recognized models and practices;
- Partnerships with significant foreign companies;
- Strategic alliances with foreign companies could increase exports;
- Clustering with other competitive sectors in Kosovo and the region can increase the capacity of the small companies;

CMMI IMPLEMENTATION CAN HELP MITIGATE THE FOLLOWING WEAKNESSES

- Country does not have the image of an IT supplier;
- Outdated products/services;
- Lack of quality certification and development methodologies;
- Lack of project management skills and/or industrial production of software;
- Potential for work-sharing in the region is not extensively used;
- Lack of focused international marketing strategy;

For further information please do not hesitate to contact the RCI IT team in ESI Center Eastern Europe, office@esicenter.bg, tel. +359 2 4899740