



Republika Crna Gora
Ministarstvo ekonomije

**STRATEGY OF
ELECTRONIC COMMUNICATIONS SECTOR
IN MONTENEGRO**

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R: Covers Regulation and Legislation; A: Covers Actions for the Agency for Electronic Communications and Post; G: Covers Government’s Organization and Roles; P: Covers Role of Public Sector Enterprises; N: Covers Alternative Networks and Technologies; O: Covers Other Areas * Indicates recommendations for policies and initiatives which can contribute directly to the implementation of a national Broadband Strategy for deploying widespread and affordable broadband access services

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0. EXECUTIVE SUMMARY

Since 2000, the Republic of Montenegro has made significant progress in regard to its Telecommunications, or more broadly Electronic Communications Sector¹ (ECS). Among these achievements are:

- Substantial investments to build modern network infrastructures, notably a local digital circuit switched telephone network, a national fiber optic transmission network, and a high capacity, packet-switched MPLS²-based network;
- High penetration of mobile telephone services, and a high (in light of the income levels in the Republic) household penetration of fixed telephone services;
- Successful auction-based privatization (consummated in April, 2005) of the incumbent full-service formerly state-owned network operator Telekom Montenegro (“Telekom CG”) and the elimination of Telekom CG’s legal monopoly as of the beginning of 2004, although no competitive fixed operator has yet entered the market;
- Establishment of a functioning regulator for the Telecommunications Sector (the Agency for Telecommunications) that has supervised initial steps in areas as important as telephone tariff rebalancing and a Reference Interconnection Offer (RIO) from Telekom CG, in addition to other activities such as issuing licenses and rule books, resolving disputes, ensuring consumer protection, and monitoring and controlling radio frequency systems; and
- Establishment of a regulator for broadcasting (the Broadcasting Agency (BA or ARD) which has developed a Broadcasting Development Strategy that addresses major anticipated developments such as the introduction of digital broadcasting and the potential role of new (to Montenegro) distribution systems such as cable TV - this strategy included adoption of a new broadcast frequencies allocation plan and frequency assignments, and a plan for digital broadcast frequencies. Among its other activities, the ARD has also undertaken broadcast frequency monitoring and control, collection of the broadcast subscription fee and its distribution to broadcasters, and the resolution of disputes.

¹ See Appendix 1 for the definition of the Electronics Communications Sector, which reflects the convergence of broadcasting and telecommunications infrastructures and the digitization of all signals regardless of their content

² MPLS: Multiprotocol Label Switching, a standard for IP (Internet Protocol)-based networks from the Internet Engineering Task Force (IETF). In an MPLS network, incoming packets are assigned a "label" by a "label edge router (LER)". Packets are forwarded along a "label switch path (LSP)" where each "label switch router (LSR)" makes forwarding decisions based solely on the contents of the label. At each hop, the LSR removes the existing label, and applies a new label which tells the next hop how to forward the packet.

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However, despite these achievements, there remains much to be done to ensure that Montenegro continues to make progress towards the level of ECS capabilities that have been built, and continue to improve, in countries such as Slovenia and Estonia, not to mention the most advanced members of the European Union (EU) as well as other parts of the world. A comparison of the status of the ECS in Montenegro with several other European countries is contained in Chapter Two – “Assessment of Electronic Communications Sector.”

Unfortunately, there is insufficient funding available from the Government’s own resources to implement several of its own clearly identified needs. Furthermore, the fulfillment of the overall responsibilities of the Government within and for the ECS is hampered by the scarcity of the requisite expertise and experience within the Government. This scarcity seems to have been growing in recent years, thanks in part to the expansion in the number of better compensated opportunities available to staff with ECS expertise in the private sector and elsewhere.

The most visible areas in which progress should be reinforced, gaps should be filled or modifications introduced, or new initiatives launched include:

- Improvements in the overall price/performance level of electronic communications services;
- Introduction of competition into current monopoly or quasi-monopoly market segments, notably in fixed network services and facilities, international communications services, and Internet access and services;
- Ensuring a healthy climate for investment in new broadband network technologies by both existing and potential new suppliers;
- Modification of existing ECS legislation and regulation to move closer to the policies and principles embodied in the EU Directives for the Electronic Communications Sector, taking account of the flexibility allowed in their implementation to account for specific local circumstances; this goal is in line with the Republic’s intent to build closer economic, commercial, and political relationships with the EU, including eventually full membership;
- Stimulation of the use of the Internet by residents, businesses, and Government bodies in Montenegro, including coordination with the Republic’s ICT (Information and Communications Technology) Strategy and development of a rich portfolio of online applications and services (G2B, G2C, B2B, and B2C³);
- Restructuring of the planning and implementation of the Government’s own use of electronic communications networks and services, which is today poorly

³ Government-to-Business and -Consumers (Residents), and Business-to-Business and -Consumers.

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coordinated and inefficiently fragmented, to improve their effectiveness and cost/performance;

- Removal of all obstacles to attracting new investors to the ECS in Montenegro, both with respect to the introduction of new services that depend on the timely availability of reasonable wholesale offers from existing network operators, and in terms of installing new facilities, notably cable distribution networks that can provide telecommunications services as well as distribute entertainment programming, and selected use of other technologies such as broadband wireless;
- Rationalization of overlaps and duplication of activities between the two regulators (Agency for Telecommunications and the Broadcasting Agency); and
- Increase of the number and effectiveness of the ECS resources within and available to the Government (notably the Ministry of Economy) through measures such as the consolidation of its existing fragmented staff resources into a central ICT (Information and Communication Technologies) Department, and expanded use of ad hoc Task Forces and advisory bodies, including use of expertise from the private sector, academia, and even abroad to assist the Government to fulfill all its responsibilities with respect to the ECS, as policy maker and legislator, user, and supplier of online services to its customers (residents and businesses).

The purpose of the Strategy described in this document is to ensure the continuation of the momentum that has been built up in this Sector over the next 5 years and beyond. Its formulation reflects the needs just outlined while also taking account of:

- Fundamental global and regional forces affecting the Electronic Communications Sector, notably the:
 - Transition to multi-purpose packet switched networks, that are replacing circuit switched telephone networks and largely separate networks for voice and non-voice traffic;
 - Increasing dominance of total traffic volumes by non-voice services, although still today the revenues of major network operators continue to be derived primarily (although the percentage is decreasing) from voice services;
 - Shift of pricing structures and hence operator revenues towards a greater dependence upon subscription fees, an increasing independence from distance- and destination-related factors, and a decreasing reliance upon charges for minutes of use;
 - Increasing importance of Internet-based applications and services for many types of personal, social, business, and Government transactions;

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- Convergence of telecommunications and broadcasting infrastructures in terms of the services they can support (e.g. broadcast programs over telephone networks and telephony and Internet access over cable distribution networks);
- Complementary and competitive nature of mobile access and fixed access networks and services, one consequence of which is that many full service operators, including Telekom CG, are trying to manage the simultaneous decline of their revenues from fixed network operations while revenues from mobile customers are increasing.
- The impact of privatization and the need to ensure that the regulator can effectively supervise public electronic communications networks and services markets that are dominated by large foreign-owned operators (Magyar Telekom (Matav)/Deutsche Telekom) and Telenor) which can apply very large ECS resources (much greater than those available within Montenegro alone) for the benefit of Montenegro and in regulatory negotiations;
- The need to ensure accountability of the Regulator, financially and professionally, so that it operates efficiently and in accordance with the requirement for proportionate regulation, and does not impose undue financial and other burdens upon the companies it is regulating, which could create harmful obstacles to otherwise profitable and value-creating investments; and
- The poor economic and unusual institutional circumstances of Montenegro (its membership of the State Union of Serbia and Montenegro but with its own currency and autonomy except in a few areas such as the military and foreign policy⁴), which are the consequence of the hostilities of the 1990s, and the break up of the former Federal Republic of Yugoslavia.

The ECS Strategy therefore contains Recommendations for:

- Implementation of the Government's policy to combine the Agency for Telecommunications and the Broadcasting Agency into a single Agency for Electronic Communications and Post (AEC⁵), as envisaged by the Government of Montenegro in its Agenda for economic reform, with a clear demarcation between responsibilities for regulation of EC networks and services on the one hand, and the regulation of content and programming on the other, incorporating principles of independence of regulators, as described in EU Directives and Council of Europe Recommendations;

⁴ Although Montenegro and Serbia have submitted (February, 2005) separate applications for membership of the World Trade Organization (WTO), but are not recognized as independent nations by the International Telecommunication Union (ITU).

⁵ The Agency for Telecommunications has already assumed responsibility for postal regulation under legislation passed in 2005, and been renamed the Agency for Telecommunications and Post (ATCP)

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- Corresponding amendments of and additions to the current Telecommunications Law to encompass the broader arena of Electronic Communications and to be renamed the Electronic Communications Law⁶ (see Appendix 1 for key definitions), with accompanying necessary amendments to the Broadcasting Law - the regulatory framework for EC networks and services will remain distinct from that for program content;
- Restructuring the governance and strengthening the powers of the AECF, and ensuring its independence from the sector, and from political influence in the field of program content broadcasting regulation:
 - The Agency will be a non-profit organization financed from sources that are independent from the State Budget and sufficient to cover the expenses of regulation;
 - Nomination and dismissal procedures and criteria for the Director and members of separate ECS and Program Content and Consumer Councils will reflect the specific and distinctive demands on regulatory frameworks from the EU Directives for ECS and the EU Recommendation for Program Content (see for example Directive 97/36/EC of the European Parliament and of the Council of 30 June 1997 amending the 1989 “Television without Frontiers” Directive);
 - Independence of the Agency will be safeguarded through clear provisions in the Law on Electronic Communications of its responsibility, accountability, coordination and relations with the Government, Parliament, and other institutions;
 - While the Ministry of Economy is competent to introduce secondary legislation on the basis of the Electronic Communications Law it is not competent to do so with respect to the Broadcasting and Media Laws, and will cooperate with the Ministry of Culture and Media regarding the supervision of the Agency’s activities which lie within the responsibility of the Content and Consumer Council; and
 - An Appeals mechanism against decisions of the Agency will be established to enable such disputes to be resolved more rapidly than through the courts, although resort to the courts will be retained as a last means of recourse, with safeguards against frivolous or purely obstructive appeals.
- Priorities for action by the AECF to implement the new Telecommunications or Electronic Communications legislation, such as:
 - Replacement of the existing licensing by an authorization regime, eliminating the requirement for significant license fees beyond administrative costs except for the use of scarce resources such as frequency spectrum⁶;

⁶ Helps enhance conformity with the principles of the EU Directives.

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- Introduction of cost-oriented pricing and accounting separation for operators designated as having Significant Market Power (SMP) in selected market segments, with an initial designation in the new Law of such segments and operators⁵;
 - Development of an improved and expanded set of wholesale bandwidth and facilities offers available to services providers, and of an improved Reference Interconnection Offer (RIO)⁵;
 - Greater clarity and administrative simplicity for the authorization of cable distribution operators⁵;
 - Procedures for implementation of Universal Service Obligation(s) and funding, under conditions prescribed in the new Electronic Communications Law;
 - Establishment of clear and reasonable conditions for the taxes, fees, and other charges that may be levied by municipalities on operators and service providers within their territories;
 - Use of a broad representative set of country benchmarks for measuring the status and progress of the ECS in Montenegro, covering both business and residential customers.
- Reorganization, i.e. consolidation, of ECS resources within the Government to achieve: (a) greater efficiency and effectiveness in the planning and implementation of its own electronic communications networks and services; (b) enhanced coordination within and between ECS and ICT (Information and Communications Technologies) Strategies and initiatives; and (c) optimization of the availability, costs and value of current and future Government services to residents and businesses in Montenegro:
 - Closer coordination between the policies, plans and initiatives of various Government Ministries and Departments in the areas of ECS and ICT is essential, such as the Ministry of Economy (responsible for policy making in the ECS), the Secretariat for Development (responsible for ICT Strategy and overall economic policy⁷), the Ministry for Interior (responsible for infrastructure for police and security purposes among others); the Ministry of Culture and Media (responsible for policy with respect to media, including broadcasting); the Ministry of Education and Science (responsible for ICT in schools); as well as other Ministries that bear responsibility for Government policies and actions in various sectors of

⁷ See for example the document “Economic Policy of Montenegro for 2005”, Secretariat for Development, Podgorica, February, 2005

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the economy and society from health care to tourism that can derive significant benefits from improvements in the ECS;

- In addition, the newly constituted (February, 2005) Montenegro Investment Promotion Agency (MIPA) and the Montenegro Business Alliance (MBA), which includes network operators and service providers among its membership should be consulted and contribute to debates, decisions and policies that affect the attractiveness of the ECS to foreign and domestic investors.
- Ensuring that a comprehensive set of other legislation is enacted which, while not directly connected or limited to ECS, will have a critical influence on investors' willingness to develop new online applications and services, and hence on the value that can be generated through the use of improved ECS networks - an example of such legislation should address Intellectual Property Rights (IPR).
- Opportunities to establish competition in the provision of fixed network services and even facilities, through means such as exploitation of (a) the rights-of-way of organizations such as the railroad and electric power company, other utilities, and the Broadcasting Center (BC), and (b) the capabilities of new broadband wireless technologies – the longer term goal of “light regulation” will become practical as and when competition of this kind is established.
- Obligation of the Government to stimulate internal and external awareness of “Brand Montenegro” as a place where the utilization of new electronic communications and more broadly ICT-based (Information and Communications Technologies) services is being encouraged to foster a modern economy and achieve desirable social objectives.
 - Development of a national Broadband Strategy to stimulate investment by established and new operators that will provide widespread coverage of affordable broadband access services to residents and businesses in Montenegro over the next decade - the Recommendations R10, R11, P1, N1 and O2 presented in this document propose policies and suggested initiatives which can contribute directly to the implementation of such a strategy.

It should be noted that in response to criticism from some quarters that the proposals in the Strategy are in some areas illegal in the context of European legislation and recommendations, and European Union Directives, international institutions involved in this legislation were contacted to discuss and confirm the legality of the Strategy's Recommendations, with modifications if necessary. The positive results of this validation are included in Appendix 8.

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1. INTRODUCTION

The Electronic Communications Sector Strategy is founded upon a vision for the goals and role of this sector in the economy and society of the Republic of Montenegro, that take account of the Republic's own social and economic goals, the realities of its current circumstances, and its desire and intent to become a member of the European Union (EU).

This Strategy, therefore, refers to and seeks to achieve conformity with, the EU Directives on Electronic Communications, in a flexible and practical manner. It applies the spirit of these Directives pragmatically in a way that reflects the very different economic and other conditions of Montenegro today as compared to the richer Western European members who created these Directives. It is also flexible enough to adapt to changes in these Directives that may be introduced in future in response to and in anticipation of the still evolving and partially unpredictable transformations in the underlying dynamics of the Sector. These transformations are being fostered by progress in technology, the rising demands and expectations of customers, and the impact of competitive forces within as well as outside the Sector itself.

In particular, in the initiatives and actions it proposes the Strategy takes a broad perspective of Electronic Communications Networks and Services that extends beyond a traditional and relatively narrow telephone- and data communications-focused view of telecommunications. This broader view is outlined in the EU's Framework Directive (2002/21/EC), which recognizes phenomena such as the so-called "convergence" between traditional telecommunications and broadcasting, and indeed between all forms of communication. Convergence is the result of the increasing digitization of all types of signals regardless of their content, and of the emergence of "integrated" packet-switched networks capable of carrying all forms of communication more efficiently than separate networks devoted primarily to, and optimized for, one or a few types of communications traffic.

However, the scope of this Strategy does not cover questions related to the content, whether broadcast programs or other types, that is transmitted over electronic communications networks or via electronic communications services (see Appendix 1 – Key Definitions). In the case of broadcasting, content issues are addressed in the set of Media Laws and the Broadcasting Development Strategy (BDS) that was produced by the Broadcasting Agency Council in 2004. In addition to content, the BDS also covered important technical issues which should properly be, and are, addressed in the Electronic Communications Sector Strategy⁸. These technical issues comprise an important element in the recommended rationalization and consolidation of the way in which Montenegro regulates and prepares and implements plans for the development of its infrastructure of

⁸ This statement is not meant as a criticism of the valuable work that has been done by the Broadcasting Agency Council, which has addressed many issues that are critical to the future of the ECS as well as of broadcasting in Montenegro. The deficiency being addressed is one of a lack of clarity and hence inefficiency in the allocation of organizational responsibilities. The future of the ECS will be built upon the combination of the work to date of both the Broadcasting Agency and the Agency for Telecommunications.

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network facilities and transport services. The ECS Strategy establishes a clearer and more efficient distinction than currently exists between the regulation of the conduct of the Electronic Communications Sector and the management of issues associated with the content that it transports. It also emphasizes the imperative need in Montenegro for improved coordination between organizations which are involved in electronic communications, both public and private sector, and those which develop or own content of all kinds (again both public and private sector). Absent effective cooperation between the content and transport sectors the value of a modern electronic communications infrastructure in fostering the progress of Montenegro's economy and society will not be fully realized.

The challenges addressed in formulating and implementing a realistic and effective Strategy of this kind and scope are several, notably:

1. The advent of new and rapidly changing complementary and competitive technologies with impacts that cannot be forecast with certainty mean that any policy choices made today must contain the built-in capability for flexibility and adaptation to future partly unpredictable circumstances;
2. Formulation of strategy for this Sector requires a cross-sector and holistic approach, since the Electronic Communications Sector, as a major component within the overall ICT (Information and Communications Technologies) arena, has the potential to enable (or inhibit if poorly implemented) the development of many other sectors of the economy;
3. The effective leveraging of Electronic Communications resources and capabilities depends upon multi-faceted, interlocking policy decisions that go well beyond the traditional boundaries of the Sector itself⁹ since this Sector is an essential (but not sufficient) support for a transition towards a knowledge-based economy.

The very broad scope of the impact of Electronic Communications means that the process of pursuing the socio-economic transformation enabled by Electronic Communications (and more broadly by ICT) will inevitably alter the existing institutional order and its balance of power arrangements. This realization can be seen as potentially very disruptive and even threatening to some players, which in the worst case can generate powerful opposition to the implementation of the Strategy. Changes that are seen to involve threats to large existing centers of power are especially problematical, if the newer entities or arrangements that these changes are designed to foster are still struggling to emerge and have little current economic or political influence. This consideration must be kept in mind in the context both of attracting new investors to the Sector itself, e.g. for cable distribution networks, and of facilitating the growth of small businesses that may collectively generate significant additional employment opportunities in Montenegro. The Strategy, no matter how well it is conceived, will only have its desired impact if it is

⁹ Just as it is said that war is too serious a business to be left up to generals alone, so the Electronic Communications Sector Strategy is too important to be left up to the Electronic Communications industry alone – although its contribution is of course essential and extremely valuable.

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accompanied both by a strong will and determination to see it implemented, and by the ability to orchestrate and negotiate with very diverse sources of support for its goals and tactics.

The following section of this document presents the Vision and Objectives for Electronic Communications Networks and Services in Montenegro that establish the framework for the goals which the Strategy embodies.

1.1 VISION AND OBJECTIVES

Montenegro will pursue the objective of stimulating and maintaining an Electronic Communications Sector that:

- (1) Provides a full range of world-class electronic communications networks and services to residential, business, and other customers on its territory, efficiently and economically;
- (2) Offers attractive business opportunities to current and potential future investors in and providers of electronic communications networks and services within a competitive market environment that operates in a fair, open, and transparent manner, and conforms in a pragmatic manner, consistent with Montenegro's specific economic and social conditions, to the principles and goals embodied in various European Union Directives for this Sector;
- (3) Facilitates the development and offer of e-government and e-business applications and services, in the context of Montenegro's commitment to build an Information Society (e.g. its adherence to the United Nations' World Summit on the Information Society (WSIS) program), that improve the effectiveness and efficiency of the services provided by the Government of Montenegro (GOM) to its "customers" (the residents of the Republic and the businesses that operate in its territory) as well as those used by businesses to exchange information and enact transactions with their customers and suppliers.

Montenegro recognizes that the Electronic Communications Sector (ECS) is both a major source of wealth creation in its own right, and an essential component of the national infrastructure upon which the success and effectiveness of many other industrial and commercial enterprises and government services depend. This Sector is an essential but not sufficient component of, and must support, the Republic's overall ICT (Information and Communication Technologies) Strategy. The ECS is an increasingly important factor for improving the quality of the social and personal lives of its residents. In particular, as illustrated by the progress achieved in other countries in Eastern Europe such as Slovenia and Estonia, the development of e-government applications and services holds the promise of achieving substantial savings in the costs and enhancing the capabilities of Government, while also enabling reductions in the costs (and time) that are expended by residents and businesses at Government offices to accomplish many administrative

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operations from renewing drivers' licenses to filing tax and other required business documents¹⁰.

Hence the successful development of the ECS will contribute to the Republic's economic and social progress both directly – as a major component of the economy and through the services it provides in its own right – as well as through its potentially powerful positive impact upon the overall climate for business and for person-to-person and person-to-government relationships, thanks to the wide range of other online applications and services it can enable.

An effective and efficient Electronic Communications Sector is a necessary but not sufficient component of the Information Society which Montenegro would like to build consistent with the eEurope Action Plans.

In the broadest context the indicators of how Montenegro is progressing in terms of an overall vision for an Information Society should cover:

- ✓ Residents' access to and use of the Internet;
- ✓ Business enterprises' access to and use of the Internet;
- ✓ Prices of Internet access;
- ✓ E-Government;
- ✓ E-Learning;
- ✓ E-health;
- ✓ E-business readiness, and
- ✓ Online transactions (buying and selling).

Hence a major goal for the Government should be to establish modern public online services and a dynamic environment for e-business through the widespread availability of broadband, as well as narrowband access at competitive prices, and a solid and reliable information infrastructure.

The next Chapter gives an assessment of the current state of the Electronic Communications Sector in Montenegro. It also identifies the policy and regulatory changes that should be implemented in order to overcome remaining obstacles and deficiencies that stand in the way of realizing the Sector Vision that has been outlined, as well as initiatives that should be instigated to promote this Vision.

¹⁰ Mounting evidence is available on the benefits of online services provided by Governments, for the Governments themselves as well as for businesses and residents in their relations with Governments (e.g. the income tax service in Ireland has estimated it can save one third of its costs through online tax filings – for a wide range of evidence see the report from the European Commission Directorate General for Information Society and Media: "Online Availability of Public Services: How is Europe Progressing? – Report of the 5th Measurement", prepared by Cap Gemini and published in March, 2005).

2. ASSESSMENT OF ELECTRONIC COMMUNICATIONS SECTOR

2.1 Overview of Findings

In recent years, Montenegro has modernized and enhanced its basic networks for fixed and mobile communications, and has taken significant initial steps towards establishing the legal and regulatory framework for sustaining a competitive and innovative telecommunications market. In addition the state sold its majority stake in incumbent operator Telekom Montenegro in April, 2005 to the Hungarian incumbent Magyar Telekom (Matav), which is itself owned by Deutsche Telekom. This change in ownership or privatization removed one major concern about to ensure independence of the sector regulator from the industry it regulates. The Republic's achievements in these respects compare very favorably with those of other countries at comparable or even superior levels of overall economic development. Nevertheless a Telecommunications or Electronic Communications Sector Strategy should as a minimum address current and emerging and potential deficiencies in this sector in areas including the:

- (a) Need to ensure that the momentum towards the establishment of fair and efficient competition in the Electronic Communications sector in Montenegro is maintained after the privatization of Telekom Montenegro and the introduction of a new and powerful foreign player into this sector; consideration has been given to the roles of private networks, including those used by government bodies, and to the potential for extending private networks for public use;
- (b) Highly imbalanced (although the imbalance is decreasing) and in some cases high prices of fixed and mobile voice services;
- (c) Inadequate competitiveness and development in the Internet Services market;
- (d) An absence of facilities-based competition in fixed access networks and long distance facilities, where it will be difficult (especially in access networks) for new investors to justify their entry, given the small size of the market;
- (e) Lag in the introduction of broadband access facilities and services;
- (f) Insufficient resources available to the Ministry of Economy (MoE) to fulfill its responsibilities for policy and strategy development and the preparation of legislation for the Electronic Communications Sector (ECS) ;
- (g) Rationalization of the overlapping responsibilities between the AT and the Broadcasting Agency in the context of the convergence in the uses of formerly separate telecommunications and broadcasting infrastructures.

In parallel, recommendations should be developed regarding changes and/or necessary and desirable initiatives in the laws and regulations that affect the development of

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telecommunications markets, both directly and indirectly, covering (a) gaps and/or inconsistencies between European Union (EU) Directives on Electronic Communications and the current Telecommunications Law; and (b) existence of laws that influence the viability and acceptability of online transactions and information exchange such as those on e-commerce, digital signatures, consumer privacy and data protection, and intellectual property and patent rights.

Convergence or the increasing overlap between formerly distinct markets, networks, and services such as telephone, broadcast, and cable TV constitute a central theme of the Electronic Communications Sector Strategy developed in this project. This strategy covers the arena of Electronic Networks and Services as described in the EU Directives. It addresses the interface between public policy and regulations regarding Content (what is transmitted or communicated over electronic networks) and the operation of electronic network and services markets, but otherwise excludes Content from its scope. There are several principal Government and public sector bodies involved in and/or influential and/or responsible for telecommunications or electronic communications in Montenegro including the Ministry of Economy (MoE), the Agency for Telecommunications (AT), the Broadcasting Agency, and the Secretariat for Development (which is responsible for procuring the Government's data network services). The Electronic Communications Sector Strategy therefore addresses the respective roles of these bodies in the Sector and the extent and need for coordination of policies and actions between them.

2.2 Introduction - Overall Survey

Montenegro's telecommunications sector is relatively well-developed in comparison with its neighbors in Southeast Europe (SEE) and other countries of comparable economic wealth in terms of traditional voice services and the deployment of digital circuit-switched technology. The Republic also took a significant step by establishing a National Regulatory Agency (NRA) in 2001, which is a necessary, albeit not sufficient, prerequisite for accomplishing a successful transition from a monopoly to a competitive market environment. For the moment, this NRA shares responsibility within the broad framework of electronics communications infrastructure with the separate Broadcasting Agency, which covers wireless broadcast transmission and the licensing of cable TV operators. This division of responsibilities bears re-examination as to its appropriateness in the context of the convergence of the infrastructures used for telecommunications and broadcasting towards multiple overlapping uses. The Government of Montenegro announced its intention to merge these two Agencies as part of its program of economic reform.

The privatization of the incumbent Telekom Montenegro (Telekom Crne Gore or TCG) represents another potentially positive move towards the establishment of a sustainable competitive and innovative sector that meets the requirements of the European Union's (EU) Electronic Communications Directives, and can provide essential support for and stimulation of the healthy development of the Montenegrin economy and society. The conditions of this privatization, as agreed in March, 2005, affect the scope and timing of

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initiatives and actions that the Government of the Republic of Montenegro (GOM) and bodies such as the NRA (national regulatory authority) - the Agency for Telecommunications - may undertake in the formulation and implementation of an Electronic Communications Sector Strategy. Under almost any conceivable circumstances TCG will remain the major player in the provision of fixed network facilities and telecommunications services in Montenegro. The influence of TCG's development priorities, sales and marketing initiatives, and pricing levels and structures will carry substantial weight in the evolving shape of the Electronic Communications Sector, and will to a large degree influence how effectively this Sector is able to contribute to the Republic's social and economic progress.

Despite the notable progress of the past few years there are still significant gaps in the telecommunications services available in Montenegro and its regulatory framework, as well as continuing distortions or imbalances in the pricing of currently available voice services, both fixed and mobile. These gaps and pricing imbalances and the risks they entail, that have been partially addressed in the recently (beginning on January 1st, 2005) instituted tariff rebalancing regime need to be addressed in a strategy for the Electronic Communications Sector that builds on the progress made to date, but will also likely require some new initiatives with respect to the powers of and resources available to the NRA, as well as to the Ministry of Economy (MoE). Otherwise the positive momentum that has been generated over the past few years may stall and fail to adapt to the very different electronic communications environment that is emerging in Europe, and indeed globally.

The timing of the formulation of an Electronic Communications Sector Strategy for Montenegro is opportune, but is also rendered more complex, because of its coincidence with the growing recognition in Europe and elsewhere that electronic communications is entering a very different era than the one for which many current national regulatory frameworks and analyses of competitive dynamics were designed. Consequently there are no well established universally recognized models of success in other countries (although there are lessons both positive and negative to be learned from them) that can be readily transposed in their entirety to Montenegro.

In addition to the regulatory framework and the prices of voice services, another major gap that needs to be addressed is the growth and competitiveness of the Internet services market segment. Not only is use of the Internet relatively underdeveloped in Montenegro, even by the standards of Southeast Europe, but the provision of these services is overwhelmingly dominated (more than 95%) by one provider, the 85%-owned Internet subsidiary of TCG. Furthermore, the availability of broadband access services¹¹ to residences and businesses in Montenegro only just been initiated. The question of whether, and if so how, to try to stimulate facilities-based competition in access networks in a very small market such as Montenegro is an important one with major regulatory implications for wholesale markets and access and interconnection pricing, and the

¹¹ While there is no universally accepted definition of broadband, for the purposes of this project we will define broadband services as providing downstream speeds (to the customer) of at least 512 kbps; over time this threshold may well increase. ISDN BRI channels (128 kbps) do not meet this broadband threshold.

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conditions of provisioning. In connection with this last remark, the future potential of the cable TV industry as an alternative source of broadband access competing with DSL services offered over TCG's local telephone networks is one aspect that has been examined, as has the value of unbundling Telekom's local loops (ULL) as another means of stimulating competition in the broadband access market segment. Exploitation of this potential is complicated by the dual licensing authority for cable TV networks that is currently in force, in which both the Broadcasting Agency and the Agency for Telecommunications (AT) have roles to play. The issue of how best to allocate authority and responsibility between these two Agencies, and whether or not to combine them, has been assessed during this project.

No country, even those thought of as the most advanced, has yet come to grips fully and effectively with the competitive and regulatory implications of the emerging era of broadband (both fixed and wireless) access and IP (Internet Protocol)-dominated networks that can deliver an increasingly rich mix of complementary but also competitive mobile and fixed services over an integrated, or multi-service infrastructure. In one perspective this statement may be considered to be bad news for Montenegro, because as noted already there are no unmistakably successful, well-established models in other countries on which it can directly and comprehensively base its own Electronic Communications Sector strategy. On the other hand, this situation allows Montenegro to develop a strategy that reflects its own special circumstances, while nevertheless paying attention to developments elsewhere, especially in South Eastern Europe (SEE) and in the EU, to ensure that the goals it sets for itself are realistic in the context of its own capabilities and special circumstances, yet will not give rise to conflicts or inconsistencies with its most important economic and social partners.

Montenegro is a micro-market by the standards of most leading electronic communications countries. In this perspective, the experiences and ideas of other very small markets, such as Macedonia, Slovenia, Malta, Cyprus, Estonia, Iceland and (somewhat larger) the Republic of Ireland may be more instructive than those of the major members of the EU. One of the inevitable realities of micro-markets, as long as they remain distinct markets by virtue of national regulation (even within larger entities such as the EU) and other factors is that the number of viable competitors for the provision of facilities-based telecommunications services is bound to remain small. Hence it is likely that in order to ensure effective competition at the level of services the NRA will either have to:

- Anticipate and enforce conditions under which the one or two facilities-based providers provide economic and efficient access to their facilities to competitive service providers, if the facilities-based companies are themselves allowed to offer services; or
- Regulate facilities-only providers according to traditional monopoly utility regulation, with separate non-facilities companies being allowed to offer services over these facilities (i.e. distinguish between "Netcos" and "Servcos") on a transparent, non-discriminatory basis.

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Finally, no significant changes and initiatives in the Electronic Communications Sector can be planned and implemented without the application of sufficient human and other (e.g. financial) resources, in terms of quality, coverage and quantity of the requisite expertise (economics and finance, public policy, management, technology and engineering etc.). Again the small size of Montenegro's economy and population and hence limited pool of available resources complicate this challenge, especially given that it is precisely during the period of transition of the Electronic Communications Sector from monopoly to competition that there will be the greatest need for such resources. Eventually, and this should be a goal, even if it may take a relatively long time (ten or more years) to achieve, the need for sector-specific regulatory and other public policy resources to guide and monitor the Sector should diminish, once the basic framework for a liberalized competitive market has been established and widely accepted. But for now a key aspect of the formulation of a Sector Strategy will involve a determination of the numbers and types of human resources and the budgets required to implement the Strategy by the AT and MoE, including the possibility of using temporary additional help to meet specific purposes.

It is naïve to expect that an entirely laissez-faire approach will allow effective competition to be achieved in Montenegro's small market without further active and sophisticated encouragement, enforcement, and monitoring by the NRA and policy-making and policy-implementing authorities. At the same time it is important to recognize and balance concerns about enforcing regulations with the legitimate business interests of the current major network players in Montenegro (the Telenor-owned mobile operator ProMonte as well as Telekom CG), so as not to burden them with non-proportionate regulatory obligations that will cause them to reduce their willingness to invest and innovate. If this outcome occurs it will frustrate the attainment of one key goal of regulation which is to create an environment in which users or customers can benefit from their access to and use of modern, affordable services and timely innovations.

2.3 Assessment of Legal/Regulatory Regime

2.3.1 Assessment of Telecommunications Law

The Montenegrin Law on Telecommunications, passed in 2000, establishes a Telecommunications Agency to regulate radio communications as well as telecommunications. The Telecommunications Agency is wholly appointed and controlled by the Montenegrin government. The Law on Telecommunications, in Article 18, expressly provides that its remit does not extend to regulation of the content of radio and television broadcasting; this was already regulated under the 1998 Public Information Law by the Broadcasting Agency.

This Law consists of several substantive parts that outline the competencies of the different entities active in the field. It prescribes rules for licensing telecommunications networks and services as well as for use of radio frequencies, and lays down technical guidelines. It also contains certain safeguards for the protection of users of

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telecommunications services, for example giving users a right to complain about their bills and protecting user privacy. Finally, a number of penalty provisions are introduced, for example for operating a telecommunications network without a license.

The institutional framework for the regulation of the electronic communications sector established under the Law on Telecommunications cannot probably be said to be independent of government in a way that is fully consistent with EU Directives. Chapter II of the Law divides the various legislative and regulatory competencies between the Government of Montenegro, the Ministry of Economy (MoE) and the Agency for Telecommunications. Article 5 provides that the government determines development plans as well as a plan for the allocation of radio frequencies. It also determines the conditions for utilization of telecommunications networks. Under Article 6, the Ministry prepares an initial draft for the development plan. This plan is submitted to the government. The MoE also passes regulations under the Law, sets fees for licenses, carries out certain other functions relating to research and maintains contact with international bodies in the field. Article 7 creates a separate Telecommunications Agency, whose competencies lie in the day-to-day supervision of the sector, including issuing licenses and carrying out supervisory tasks.

It is legitimate under EU Directives for a regulatory framework to allocate a broad policy role to the government, as long as this policy is implemented by the regulator. The Law on Telecommunications, however, blurs the line between the legislative and executive functions in several respects. For example, the Ministry retains significant powers such as reviewing the scope of universal services at least once every two years, and setting license fees. This allocation of authority blurs the line between the roles of the regulatory body and the governmental bodies involved. Moreover, the framework envisaged under the Law on Telecommunications ignores the important role Parliament should play, both as the body that should approve policies drafted by the government with the MoE and as the body to which the Agency (as it does in many other countries on the grounds of independence) could be ultimately responsible, rather than to the MoE².

Even where regulatory functions are carried out by the Telecommunications Agency, there are insufficient guarantees to safeguard that it will always act as an independent body. Article 7 states that the Telecommunications agency “is founded as an independent regulatory body, which is functionally independent of all the subjects which exploit telecommunications networks and provide equipment and services”. The Director, his deputy and members of their family may not have any commercial interests in telecommunications networks, or suppliers of equipment or services.

The Law fails, however, to provide concrete guarantees of the Agency’s independence from government. The government appoints the Director for a four-year term and he (or she) may not be appointed for more than two consecutive terms. The Director may be removed from office on his own request, if he is sentenced to a prison sentence, if he performs his functions “in an unprofessional and careless manner”, if he becomes incapable of fulfilling his functions, or if he violates the ownership restrictions. The Agency is funded from fees and other sources of income that may arise from activities of

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the Agency under this Law. Any shortcomings, i.e. if the Agency spends more than its income from these sources, are financed from the State budget. If the income through fees exceeds the expenditure, the surplus will also go to the State budget. The Agency produces an annual report which is submitted to the government, including the audited accounts. The auditors are appointed by the government.

Thus there is a risk that under some circumstances the Telecommunications Agency as established under the Law on Telecommunications will find it difficult to function as an independent body and may not be able to exercise its own judgments. This comment is not meant to imply that any evidence of a substantial lack of independence of action by the Agency since its formation has been uncovered, only that the formal institutional framework within which the Agency operates raises questions of whether under EU Directives it will be considered to be sufficiently safeguarded against undue pressure and influence from the government. Although as noted one of the consequences of the privatization of TCG is that the interest of the Government in influencing the Agency to act in favor of TCG, and its ability to extract revenues directly from TCG, have been reduced.

The Director and Deputy Director of the Agency are appointed by the Government. The Law only fixes the term of these two positions, and makes no reference to the number or method of selection or qualifications required of any other management-level positions in the Agency, thereby leaving these decisions effectively entirely to the discretion of the Director. This results in an appointments process which is opaque and undemocratic. Parliament is not involved and the Agency is accountable only to the government. This is particularly apparent in the funding arrangements by which the State budget makes up any shortfalls, while any surplus income flows directly into the State accounts, rather than being reinvested in research or improvement of the infrastructure. In contrast, the ways in which members of the Broadcasting Agency are selected (see the following section) provides one model for ensuring a clearer degree of independence of a regulator from the Government.

There are also significant problems regarding the fairness of procedures before the Agency. Under Articles 69-70, significant fines may be imposed for contraventions of the law such as refusing a request for interconnection or failing to issue a detailed bill at the request of a user. Although some of these provisions will protect the rights of users of telecommunications services, fines should not be imposed in the absence of a procedural framework to guarantee the rights of service providers. The Law fails to provide such a procedural framework. There is no requirement for hearings to be held, nor does there appear to be a right to appeal specific decisions of the Agency other than those directly related to the initial grant or refusal of a license, or regarding access to lines run by other operators. Also, given the incomplete independence of the Agency it is difficult to see how it could function as an “independent tribunal”.

In terms of actions by the Agency since its formation, significant progress has been made in some critical areas, but much remains to be accomplished if a truly competitive market along the lines of EU expectations is to be established. A tariff rebalancing regime and implementation schedule through 2010 have been initiated, and the first significant tariff

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changes took effect as of the beginning of 2005. These changes are leading to significant reductions in national and especially international telephone charges, and increases in monthly telephone line rental and local call charges. Also traditionally higher business telephone charges are being equalized with residential tariffs. While still far from representing truly market-competitive pricing structures, these new and planned tariffs constitute an important step in the right direction.

Furthermore, Telekom Montenegro has introduced a Reference Interconnection Offer (RIO) for services such as leased lines. However, the basic principles for calculating the prices of the elements of interconnection are not defined. The existing tariff Rulebook only covers retail services, not wholesale ones such as interconnections. This is a serious gap in the regulatory framework and competitive rules of the market, which will be addressed in the Sector Strategy. For example, it would be possible under the current regime for a network operator to offer large discounts for leased lines in a very discriminatory manner that would give a significant and unjustified cost advantage either to its own retail operations over competitors, or to one competitor with whom it chose to establish a privileged relationship as compared to others.

More broadly there appears to have been no progress made to date towards requiring Telekom to provide a defensible cost basis for its prices or to separate its accounts so that there is a basis for fair competition (including non-discriminatory pricing for leased lines and other facilities or services in the fixed network) between its own businesses such as Monet (mobile services) and Internet CG (internet access) and their competitors. It will be important for example to ensure that competitors to Internet CG can in practice obtain access to the interconnections they need from Telekom CG (notably leased lines) to deliver service to their potential customers under the same conditions (prices, provisioning and fault repair times etc.) as Internet CG itself. Hence among the themes considered in the definition of an overall strategy for the Electronic Communications Sector has been the question of whether and if so how the Telecommunications Law should be amended along lines including:

- ✓ a clearer division of roles and responsibilities, with government restricted to a policy-making role;
- ✓ a clear statement indicating how and by whom the broadcast spectrum is to be regulated ;
- ✓ a simplification of licensing or authorization for cable TV operators, with a “one stop” process for all the services these operators might offer;
- ✓ an institutionally more independent regulatory body with sole responsibility for regulatory issues, free from government, political or economic interference, and accountable to Parliament;
- ✓ a different appointments process for members of the regulatory body, involving civil society; which is explicitly related to the mix of skills and experience in telecommunications and regulation that are needed;
- ✓ due process guarantees for all proceedings before the regulator and a general right to appeal against its decisions.

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Consideration has also been given to the Government's decision to integrate the regulatory framework for all communications services and establish one, overriding, independent regulatory body, at least for all technical aspects of telecommunications. This last point has also been addressed in the following assessment of the Broadcast Law. Other changes have been considered to bring the Law into greater conformity with the EU Directives, for example with respect to the licensing regime which is not compatible with the EU's Authorization Directive (2002/20/EC).

2.3.2 Assessment of Broadcasting Law

The current Broadcasting Law covers both the content and the technical aspects of broadcasting. On the technical side there is a growing overlap with the areas of activity of the Agency for Telecommunications, as a consequence of phenomena already observed in several European, Asian, and North American countries such as the use of cable TV networks for telecommunications services and the delivery of video programming over DSL or other broadband access networks operated by telephone companies.

There are many sensitive areas covered by the Broadcasting Law which affect how broadcasting is defined, how values and principles such as "freedom of speech and expression" are to be interpreted and applied, and how content is to be regulated. In this chapter we address only those parts of the Broadcasting Law that significantly affect the Electronic Communications Sector or hold lessons relevant for future desirable modifications or changes to the Telecommunications Law. These parts cover the:

- Composition and independence of the Broadcasting Agency;
- Licensing of cable TV , satellite and MMDS systems;
- Collection of the Broadcasting subscription and tax; and
- Radio frequency system management and monitoring and frequency assignments.

In general, the Broadcasting Law covers substantial technical elements that overlap with the development of telecommunications, which raises the question of whether it should in future focus only on content and allow all technical requirements and issues to be dealt with in a separate but comprehensive framework for Telecommunications, or to use its broader descriptor Electronic Communications Networks and Services.

Composition and Independence of the Broadcasting agency

According to Article 12, the authorized nominators of the Agency Council are: government, university, broadcasters associations (excluding associations of public broadcasting services) and non-governmental associations involved in the protection of human rights and freedoms and NGOs (non-governmental organizations) in the field of journalism. While this procedure makes the Broadcasting Agency more visibly independent from the Government than the Agency for Telecommunications, its independence could be strengthened by removing both the government and the broadcasting organizations (which it regulates and supervises) from among the nominators. This point is reinforced by the observation that one current member of the

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Council works for UNEM (Union of Independent Electronic Media of Montenegro), the association of private broadcasters, which seems to violate the condition in the Broadcasting Law that Council members should not be “persons which, as stake holders, shareholders, members of managing bodies, employees, persons under contract, etc. have an interest in legal entities involved in the production and/or broadcasting of radio and/or television programs and in other related activities (advertising, telecommunications, etc.), in a way that the membership of such person in the Agency Council may result in the conflict of interest”¹².

According to the same article, Parliament has to confirm the appointment of the Council's members upon the nomination of the above mentioned institutions. The exact role of the Parliament in confirming the appointment – or withholding its confirmation – is not clear.

Nevertheless, the procedures for nominating members of a regulator from non-government sources and for their approval by Parliament, and then for subsequent reporting by the regulator to Parliament rather than to a Government Ministry could be considered as a better model for the Agency for Telecommunications to enhance the visibility and the reality of its independence.

Another aspect of independence concerns the governance of the Broadcasting Center (BC), the public enterprise for the transmission and broadcasting of radio and television signals. According to Articles 80-84 of the Broadcasting Law, the Broadcasting Agency exercises the rights of the Republic as founder and owner of the BC. Members of the Managing Board of the BC are appointed and recalled by the Council of this Agency from proposals by authorized nominators, where a majority of the positions (4 out of 7) are allocated to public and private broadcasters. The Agency has to approve the prices for the BC's services set by its Managing Board. This intimate relationship between the Broadcasting Agency and the BC is incompatible with the EU requirement for independence between a regulator and the entities it regulates. This incompatibility will become more acute when, as planned, the BC will become more active in competing with other public network operators in certain market segments for transmission and network services. The BC's current position is also not consistent with the requirement that all providers of public networks and network services should be subject to a single regulatory framework.

Licenses for cable, satellite and MMDS distribution systems (Articles 60-73)

The desirability of establishing a single regulatory framework for all electronic communications networks (EU Directive 2002/21/EC) argues against the appropriateness of the Broadcasting Agency's power to grant licenses for the construction and use of cable, satellite and MMDS systems for the distribution of broadcasting signals, and for its technical roles in RFS management and monitoring and frequency assignment. In the context of the convergence of many different types of communication networks, and the

¹² The appearance of a conflict of interest in this case is not removed by the admonition that “Agency Council Member shall not represent the authorized nominator, but perform their duty independently according to their own knowledge and conscience, in compliance with this Law.”

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deployment of interactive broadband networks, the traditional distinction between telephone and broadcasting networks is becoming blurred. This question of how to overcome the split responsibility for regulating networks that currently prevails in Montenegro has been examined in the formulation of the Electronic Communications Sector Strategy.

Broadcasting subscription and tax (Article 74)

Today Telekom Montenegro collects the broadcasting subscription and tax on behalf of and under contract with the Broadcasting Agency, as is permitted by this Article. It is expected that this situation will change at some time in the near future and that Telekom Montenegro will no longer provide this service. It has been argued among other points that the inclusion of this fee in Telekom's fixed telecommunications bills may contribute to the decline of its fixed services by increasing customer churn to mobile services, whose bills do not include this fee. In the privatization agreement, this fee will continue to be collected by Telekom until the end of 2006, but with the possibility (subject to the Government's approval) of revision in the event that the number of fixed subscribers decreases by 3% or more. The issue of the broadcasting subscription fee is likely to become more prominent if, or when as expected at end-2006, Telekom raises its own subscription fee in a next step in tariff rebalancing.

2.3.3 Other Legislation

Other legislation that will affect the demand for telecommunications services and hence the opportunities for service providers is that which influences the demand for new transaction and information services such as e-commerce and e-government, or in general the propensity of consumers, businesses, and government to utilize online services. Examples of such laws include those on e-commerce, digital or e-signature, personal data protection and privacy, protection of intellectual property and patents, and cyber crime.

While Montenegro has adopted laws on e-commerce and e-signature, there are legislative gaps that will have to be taken account of in the Electronic Communications Sector Strategy to identify what needs to be done to maximize the opportunities for increases in the volume of telecommunications traffic and for the introduction of new network-dependent applications and services that will enhance the attractiveness of investment in the sector.

In addition, Montenegro currently lacks a law on Competition and a Competition Agency or Commission that has the right to judge and take action regarding potentially anti-competitive actions (such as the impact of proposed mergers or unfair pricing practices) in any sector of the economy. While the establishment of a broad Competition Law lies outside the scope of a project focused on telecommunications, nevertheless the adoption of such a law could strengthen the influence of the NRA in building an effective competitive framework for telecommunications. The EU is sensitive to the value of cooperation between national telecommunications regulators and competition agencies, since of course principles and practices adopted in telecommunications markets, such as

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those regarding what is “unfair” competition, should be consistent with and even learn from experiences in other sectors of the economy.

In the broader context of ICT (Information and Communication Technologies), it should be noted that the Union of Serbia and Montenegro is a signatory to the United Nations’-based Action Plan and Declaration of Principles adopted at the first phase of the World Summit on the Information Society (WSIS) held in Geneva, Switzerland in December, 2003. The second phase of this Summit took place in November, 2005 in Tunis.

2.4. Assessment of Telecommunications Sector and Services

Total reported telecommunications services revenues in Montenegro amounted to some €170 million in 2004, an increase of about 4.5% over 2003 and about 11.5 % of the Republic’s GDP. Mobile telephony accounted for 55.3% of this total, fixed telephony for 42.3%, and Internet services for the remaining 2.4%. The shares of mobile telephony and of Internet services (but from a very small base) have been increasing at the expense of fixed telephony, whose revenues have even been declining in absolute terms.

As will be discussed in the following sections of this chapter, the situation in Montenegro with respect to fixed and mobile telephony is more than satisfactory, given the overall economic circumstances of the Republic, in terms of penetration and network deployment, although the pricing of these services needs substantial revision and rebalancing. Otherwise the principal areas of concern with regard to the future effectiveness and roles of the telecommunications sector in Montenegro have to do with Internet services, including dial-up access and the availability of broadband access. It should be noted that these comments result not simply from comparisons with the closest neighboring countries in the region of Southeast Europe, which show that Montenegro has progressed farther and faster in many key aspects of the telecommunications sector, but also from reviewing the progress and achievements of some other small states such as Macedonia in the short term, Slovenia as a target, and ultimately even Estonia and Malta. The context within which Montenegro’s telecommunications sector has been assessed is how it can achieve leadership or at least comparability with the most efficient and effective national telecommunications sectors within Europe, or even globally, subject to the limits of realistic goals that reflect its overall economic capabilities.

The following tables present some comparisons of Montenegro with other European countries (all figures end-2004 except where noted) in terms of the penetration and prices of services. It can be seen that Montenegro’s relative position with respect to several basic telephone indicators is very respectable and even superior compared to its neighbors, with the important exception of broadband access, which service was only launched in 2005. The ISP business in Montenegro is also very underdeveloped in comparison with other countries, a circumstance that may well be connected with the fact that so far Telekom CG’s Internet CG subsidiary does not face any significant competitors.

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Montenegro's position in terms of telecommunications prices is a very mixed one, reflecting the continuing imbalance in its tariffs which is being reduced over the next few years. The elimination of the differential between the prices for business and residential customers - which is already foreseen - as well as substantial reductions in the prices of international calls should be important goals for the telecommunications sector in Montenegro. International communication to and from a very small market such as Montenegro's cannot *from the user's perspective* be compared with international communication to and from much larger markets such as Germany or even Romania or Hungary. The value to a user depends upon the number of desirable correspondents who can be reached at a given price. Montenegrins and businesses in Montenegro can only reach a very limited number of correspondents at national prices within a small territory as compared to most other countries. Even a national long distance call within Montenegro may cover distances – in some instances over difficult terrain – that in larger countries fall within local calling zones. Not surprisingly the areas where telecommunications prices in Montenegro are particularly high compared to European levels cover market segments where there is an effective continuing monopoly, i.e. the retail price of international calls and the wholesale price for call termination on the fixed network.

Sources of the information presented in the two following tables include the “European Electronic Communications Regulation and Markets 2004,” 10th Implementation Report from the European Commission, December, 2004”; the “Report 1- Country Comparative Report – Supply of Services in Monitoring of South East Europe – telecommunications services sector”, Cullen International, August, 2005; and Arthur D. Little estimates.

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Table 2.1: Penetration of Telecommunications Services (end-2004)

| Country | Fixed lines/100 pop. | Mobile phones/100 pop. | Payphones/1000 pop. | Broadband access/1000 pop. | Number of ISPs |
|----------------------|-----------------------------|-------------------------------|----------------------------|-----------------------------------|-------------------------|
| Montenegro | 30.6 | 77.9 | 1.29 | 0 | 2 |
| Albania | 25.16 | 38.61 | 0.47 | 0 | 17 national, 9 local |
| Bosnia & Hercegovina | 35.13 | 34.22 | 0.77 | 1.21 | 3 national, 40 local |
| Bulgaria | | 61.00 | 2.65 | 0.86 | 13 national, 192 local |
| Croatia | 37.81 | 63.99 | 2.76 | 6.05 | 18 national |
| Romania | 20.25 | 47.12 | 2.38 | 4.18 | Over 500 |
| Serbia | 33.89 | 56.98 | 1.40 | 0.3 | 10 national, 30 local |
| Slovenia | 40.7 | 95.0 (05/04) | - | 38 | Over 40 |
| Estonia | 32.9 | 93.0 | - | 91 | 7 major commercial ISPs |

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Table 2.2: Prices of Telecommunications Services*

| Country | Monthly business fixed line rental, euros | 3 minute fixed to mobile call, eurocents | 10 minute call to near country euros | 10 minute call to distant EU country, euros | Call termination charge on fixed network single transit, eurocents/min. (peak)# | Call termination charge on mobile network, eurocents/min. (peak) |
|----------------------|--|---|---|--|--|---|
| Montenegro | 4.09 | 82.3 | 3.23 | 4.68 | 7.5; 6.1 | 16.50 |
| Albania | 6.27 | 152.3 (95.2) | 3.15 (5.93) | 4.34 | 1.21;2.35 | 21.93 |
| Bosnia & Hercegovina | 4.65-10.22 | 30.4-67.5 | 2.81- 5.40 | 5.34- 12.54 | -- | -- |
| Bulgaria | 8.44 | 101.4 (71.8) | 1.84 (0.67) | 1.84 | 1.69; 5.11 | 19.48 |
| Croatia | 9.12 | 76.3 | 2.94 | 3.58 | 1.3; 3.0 | 11.73 |
| Romania | 8.00 | 50.0 (39.3) | 2.62 (1.41) | 2.62 (0.99) | 2.14; 2.14 | 7.33 |
| Serbia | 0.53 | 44.4 (private); 73.3 (business) | 2.36 | 3.32 | - ; 2.55 (mobile) | 2.55 |
| Slovenia | 8.92 | - | 1.75 | 1.75 | 1.04 (fixed) | 21.4 |
| Estonia | 13.17 | - | 1.53 | 1.53 | 1.05 (fixed) | 15.8 |
| EU 25 Average | 14.2 | - | 2.0 | 2.7 | 1.0 (fixed) | 14.70 |

* Early 2005 except for Slovenia, Estonia and EU Average, mid-2004; all prices of incumbent operator; except prices from an alternative operator shown in ()
Fixed-to-fixed is shown first, then mobile-to-fixed

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2.4.1 Fixed- Line Services

Telecom Montenegro (Telekom Crne Gore or TCG) is the dominant operator of Montenegro and currently enjoys a de facto monopoly over fixed line operations. In March, 2005 agreement was reached to sell the Government of Montenegro's controlling share in TCG (51.12% of the interest in the company) to the Hungarian incumbent operator Matav (itself controlled by Deutsche Telekom) for 114 million euros. Matav was the winner of an auction which also saw bids from Telekom Srbija, Telekom Slovenije, and Mobilkom (Austria). Matav also offered to buy the remaining shares held by employees, private funds and citizens at large as a result of the Mass Voucher Privatization (MVP) program completed in 2001, and acquired another 15.97% of the shares from minority shareholders for 17 million euros. As of the beginning of 2006, Matav (now known as Magyar Telekom) owned a 72% share in TCG.

Aside from being the sole provider of fixed-line services, TCG controls three other operators, namely a mobile operator Monet (100% owned), an Internet Service Provider (also now 100% owned), and a 51% owned public payphone operator.

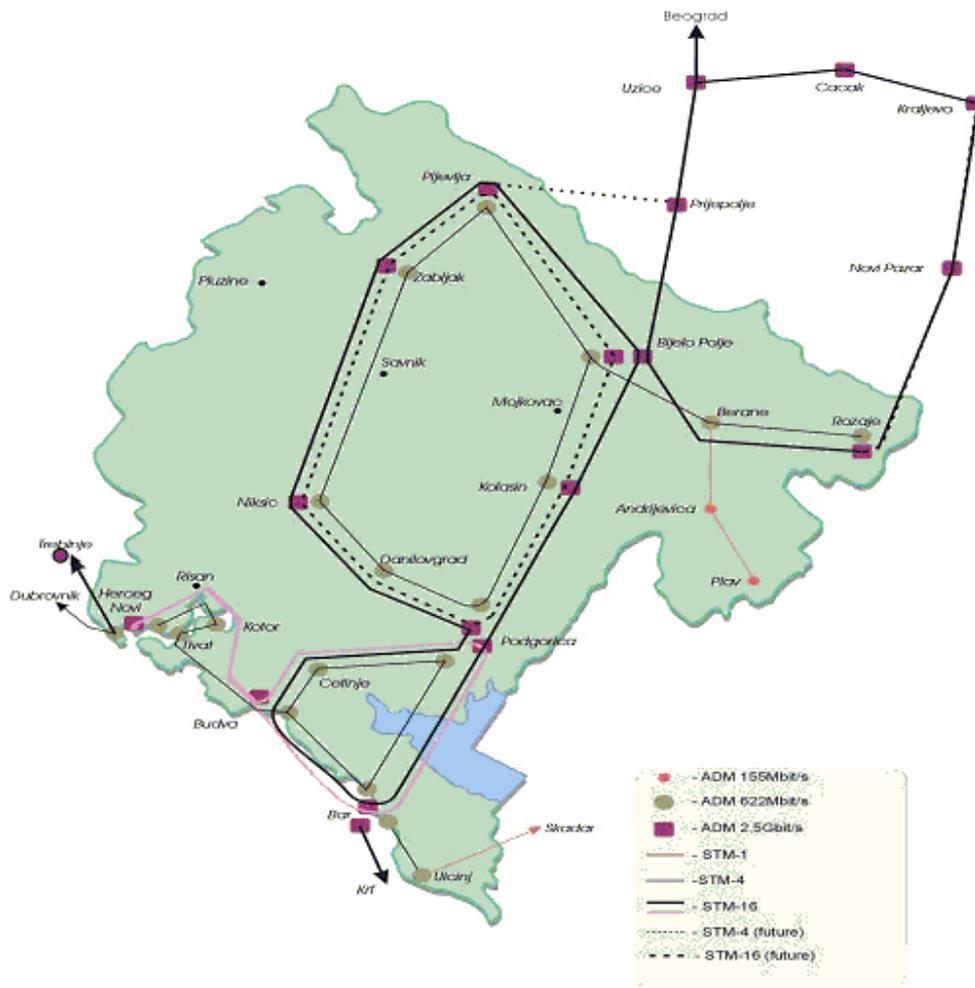
The TCG Group provides fixed line, mobile and Internet services. Based on the audited financial statements of the TCG Group companies, consolidated group revenues amounted to € 92.4 million in 2003, with an EBITDA margin of 37% (EBITDA: € 34.4 million). The Group's net debt ratio (net debt to net debt + equity + minorities) stood at 11% at the end of 2003 and the Group had around 1,300 employees. With a 28% fixed line penetration at the end of 2003, TCG had around 191,000 access lines and operated with a line/employee ratio of around 160. The fixed line segment produced revenues of € 36.6 million in the 6 month period to end-September, 2005 as reported by Magyar Telekom in its consolidated results with a 16.0 % EBITDA margin (EBITDA: € 5.8 million) after absorbing severance payments of almost €4.7 million. Monet, the mobile segment of the TCG Group, is Montenegro's second mobile carrier with a market share of around 41% by number of subscribers in 2005. Monet's EBITDA margin over the 6 month period to end September, 2005 was 47.4% (revenue: € 24.1 million, EBITDA: € 11.3 million). The Group's Internet segment, Internet CG, is a fast growing ISP that dominates the still small market. The EBITDA margin of Internet CG reached 30%, while revenues amounted to € 2.3 million (EBITDA: 0.7 million) in 2003 but were consolidated only from 2004.

TCG is the only public voice telecommunications operator with a license to provide public fixed telecommunications network and services. It is also in charge of telecommunication technologies development and service provision to the end users. Its exclusivity rights over voice telephony expired on January 1, 2004, in line with the Montenegrin Law on Telecommunications.

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TCG has an installed telephone plant of some 240, 000 lines, with more than 200,000 lines in service, so that fixed-line teledensity exceeds 30 %. TCG recently implemented a significant expansion and upgrading of its infrastructure. Investments in telecommunications infrastructure have brought TCG's system close to full digitalization and created conditions for providing wide range of high quality services. Optical-fiber-based SDH rings, operating at speed up to 2.5Gbps (STM-16) have been built (Figure 2.1) Ericsson, Siemens and other European suppliers have been the principal equipment vendors. Additionally, TCG recently developed an IP network with a view to capitalize on the growing Internet market. It began marketing ISDN BRI and PRI.

Figure 2.1: Telekom CG's SDH (Synchronous Digital Hierarchy) Optical Fiber Network



The recent evolution of TCG's installed fixed line capacity and customers is shown below:

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Table 2.3 – TCG Fixed Line Telephone Network

| | 2001 | 2002 | 2003 |
|----------------------------------|----------------|----------------|---------------------------------|
| Installed capacity | 239 114 | 240 400 | 244 200 |
| Digital | 205 590 | 219 844 | 237 515 |
| Analog | 31 241 | 17 736 | 3 735 |
| Rural | 2 283 | 2 840 | 2 950 |
| Subscribers | 185 833 | 189 865 | 188 012 |
| Digital | 152 309 | 169 289 | 181 327 |
| Analog | 31 241 | 17 736 | 3 735 |
| Rural | 2 283 | 2 840 | 2 950 |
| Percent of digitalization | 87,0% | 92,5% | 98,01% (99.80% end-2004) |

Table 2.4 - TCG Customer Base

| Customers | 2001 | 2002 | 2003 | 2004 |
|-----------------------|----------------|----------------|----------------|----------------|
| Commercial customers | 18 379 | 20 100 | 19 896 | |
| Residential customers | 167 456 | 169 125 | 168 116 | |
| Subscribers | 185 833 | 189 225 | 188 012 | 184,560 |
| ISDN PRI | 26 | 66 | 90 | 134 |
| ISDN BRI | 207 | 574 | 2,783 | 5,061 |
| Total | 186 066 | 189 865 | 190 885 | 189755 |

Twenty thousand business customers represent 10 percent of TCG's customer base, but generates 35% of its revenues. The almost 170 thousand residential lines generate the remaining 65% of revenues. Business users subsidize residential users (the rates they are charged are higher), but this price differential will be eliminated in 2007 under the tariff rebalancing regime.

Continued growth trend in ISDN subscribers has been registered during the last few years. Nevertheless, ISDN is an obsolete and expensive technology with limited capabilities compared to more modern technologies such as xDSL. As has been assessed in the formulation of an Electronic Communications Sector strategy, investments in these other more powerful broadband technologies will be a more sensible choice than any further investment in ISDN.

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2.4.1.1 Payphone Service

There are two providers of public pay phone services:

1. Post Office Montenegro, established in 1998 with 442 public pay phones in working order throughout the country.
2. Montenegro Card d.o.o., established in 1999 and 51% owned by Telekom CG. It is a joint venture in cooperation with Hellascom, Greece. Montenegro Card has 300 public pay phones in working order and installed in major cities in Montenegro. The total number of public pay phones increases during the tourist summer season and totals some 600.

2.5 Role of the Broadcasting Center (BC)

The BC currently provides transmission and transport facilities to broadcasters, as well as sites to mobile operators for their base stations. Its assets were formerly all owned by Telekom CG but it became a public sector enterprise reporting to the Ministry of Culture and Media at the beginning of 2005. The BC receives funding from the fees paid by broadcasters for program transmission and by third parties for use of its infrastructure, as well as from the State and local administration budgets for the transmission of public service broadcasts.

The BC's current radio transmission network includes both analog and digital transmission systems, using a combination of fiber optics and PDH (Plesiochronous Digital Hierarchy) radio for digital transmission and radio only for analog transmission. Altogether the BC has 126 sites, comprising two main broadcast transmission sites at Lovćen and Bjelasica (with permanent maintenance staff), a microwave station at Plavnica (with permanent maintenance staff), 23 sites with transmitters and 100 sites with translators. Analog transmission used on 5 radio paths as well as links to Serbia and Croatia depends on very old equipment (over 30 years) for which spare parts cannot be obtained. Digital radio links in the 18GHz band were installed in 2001/2002 with a capacity of 34Mbps.

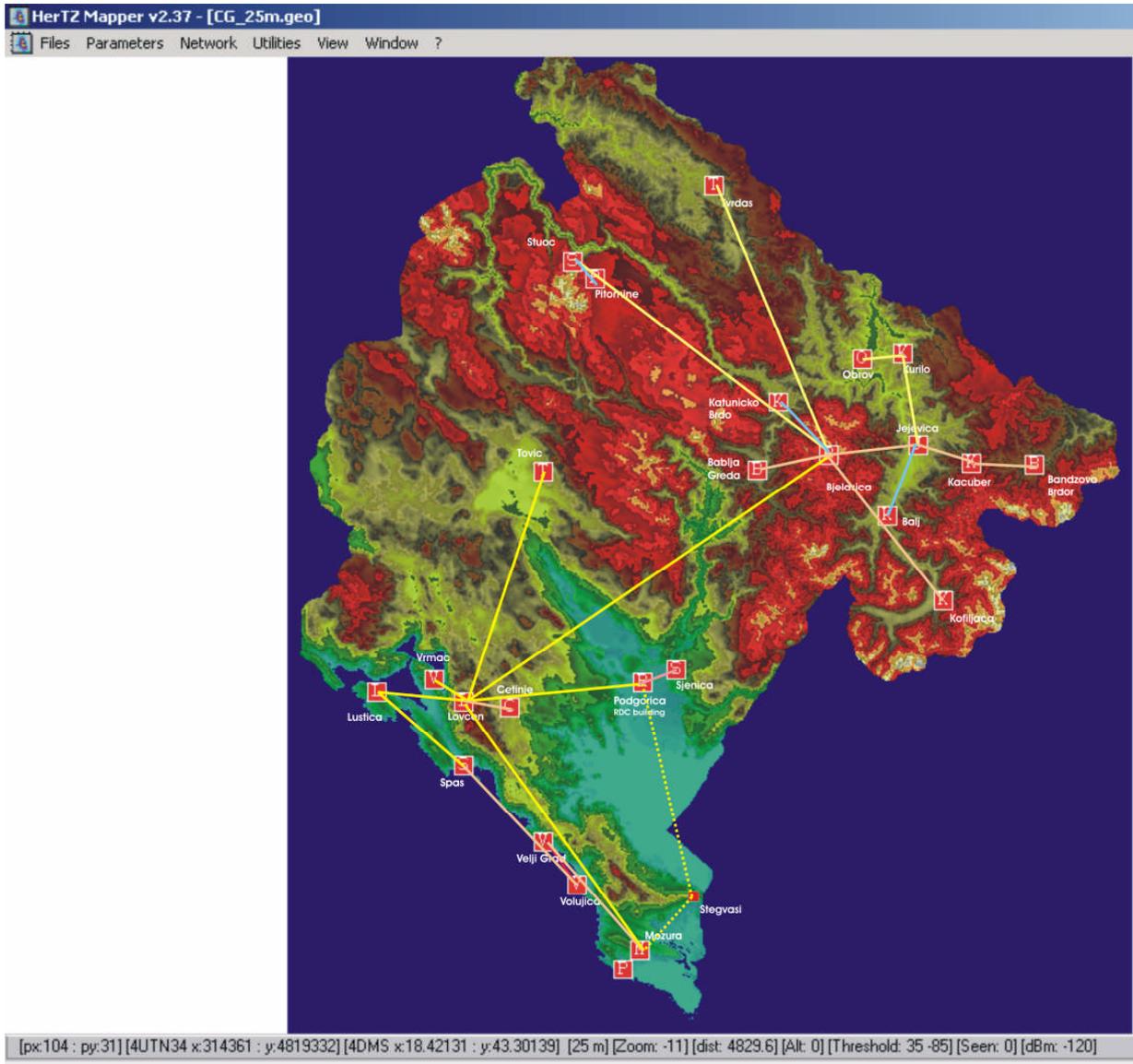
The BC is striving to meet needs for additional transmission capacity for television and radio programs and has plans to install a new protected national SDH (Synchronous Digital Hierarchy) radio transmission network with a capacity of 155Mbps (STM-1) along most routes and 622 Mbps (STM-4) along some, using various frequency bands (depending on availability over the various paths) such as 2, 4, 2.5, 3.5, 6 and 18GHz. This system (see Figure 2.2) is intended for use to transmit digital telecommunications traffic as well as television and FM radio signals. Thus the BC will operate as a wholesale provider of telecommunications capacity as well as a transmission system for broadcast radio and TV programs. The role of the BC as a competitive provider of transmission facilities for public telecommunications networks raises questions of how it should be regulated and governed in future. Its governance, competences and conditions of

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operation are today defined in the Broadcasting Law, and the members of its Board are appointed by the BA (or ARD) from proposals by authorized nominators including public and private broadcasters among others. These questions have been addressed in the ECS Strategy.

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Figure 2.2: BC SDH Radio Network



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2.6 Mobile Communications

Mobile telephony in Montenegro is provided by two operators, ProMonte (which is owned by the Norwegian national operator Telenor¹³ and began operation in 1996), and Monet, (which is owned by Telekom Montenegro and began operation in 2000). Both operators currently offer service based on GSM 900 and 1800 networks.

Montenegro's mobile subscriber base is dominated by prepaid subscriptions, which is typical for regions at this level of economic development. The reported numbers of mobile subscribers as of October, 2005 were 647,183 (a penetration rate of over 100%), including 90,814 postpaid customers (14.03%). ProMonte accounted for 58.95% of these subscribers (381,503 including 47,410 postpaid) and Monet for 265,680 (including 43,404 postpaid).

This number of subscribers corresponds to a mobile penetration of 104.36%. We believe that this very high penetration is somewhat misleading, since it likely includes a significant number of non-actives but still "on the books" prepaid mobile phones. Nevertheless the mobile penetration rate is very impressive and certainly notably higher than the estimated average mobile penetration of 63% as of end-2004 in the ten accession countries that joined the European Union in May, 2004.

ProMonte has established roaming network arrangements on all six continents, providing in the majority of countries a choice of several different operators. Monet has established 121 roaming partners in 72 different countries. Monet also handles "fixed-line substitute" rural telephony operations, involving some 2-3 thousand subscribers, on behalf of TCG. This arrangement has implications for a future Universal Service Obligation.

2.7 Internet Access

The number of dial-up Internet subscribers in Montenegro has been growing rapidly; nevertheless Internet penetration is generally undeveloped. The market is characterized by a low level of penetration and insufficient use by commercial companies and businesses.

Montenegro's Internet penetration lags well behind that of many other countries in Southeast Europe, and did not as of end-2004 include any broadband subscribers, in contrast to the situation in countries such as Estonia and Malta, with broadband penetrations of 7.6% and 3.5 % of the population respectively as of mid-2004 (and total Internet penetrations of 46% and 31.3 % respectively).

¹³ In August, 2004 Telenor acquired the 55.9% of ProMonte it did not own for € 64.8 million, thereby valuing the company at a total of € 116 million.

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This telecommunications market segment is dominated by Internet Crna Gora (Internet CG), a 100%-owned subsidiary of Telekom Montenegro, which commenced commercial operations in 1997. Currently Internet CG has almost 100% of the Internet market, with over 70,000 Internet users, mostly residential.

Internet CG began as a joint venture between TCG, the Government of Montenegro and two private investors. The original ownership stakes were 25%, 15% and 60% respectively, but today Telekom CG owns 100%. As of the beginning of 2006 Internet CG had over 110,000 dial-up users. It is actively pursuing growth targets. Total internet penetration is 19 %. Internet CG has 12 points of presence in Montenegro, one in each of TCG's 12 national tariff zones. Calls via the internet access number are tariffed at 60% of the cost of a local call. Subscriptions are currently all prepaid. Internet CG domestic backbone links are chiefly E-1 (2Mbps) circuits procured from TCG. International links include an STM-1(155-Mbps) circuit to Deutsche Telekom. International bandwidth is said to be sufficient to meet current needs. Cisco and HP routers and servers are the equipment base. Internet CG has 44,296 dial-up subscribers, and 108 leased lines. It dominates the market with a reported share of almost 97.7%. Internet access is also available through Wi-Fi (2.4GHz) wireless service at a number of locations in Podgorica.

Internet CG offers leased line Internet access at various speeds: 64kbps, 128kbps, 192kbps, 256kbps, 512kbps, 1Mbps, and 2Mbps. The great majority of such links today run at the slower speeds of 128kbps and 64kbps.

The structure of the leased lines in 2002 according to their capacity was as follows:

| | |
|-------------|--------------|
| 64kbs – 46% | 128kbs - 36% |
| 192kbs- 2% | 256kbs - 6% |
| 512kbs-5% | 1Mbs -5% |

The rates of Internet CG for some categories of dial-up subscribers (10, 20 and 40 hours) are among the lowest in the region of Central and East Europe. Its competitor's prices (see below) are approximately the same. The prices of leased lines from Internet CG have decreased, but they are still above the regional average. At the end of 2003, Internet CG introduced new Internet service packages- Students, Standard, Family, and Business, to promote the use of the Internet. In addition, Internet CG has ensured for all its users Internet roaming in the territory of Serbia together through the Internet service provider EUNET. The price of one hour of roaming service is equal to the price of 3 (three) hours of local use.

A second Internet service provider MontSky commenced operation in October, 2003 after receiving a license in 2002. MontSky is owned by **Informatika** Montenegro, an IT implementer and systems integrator. It was awarded a license in November 2002. Informatika Montenegro is currently the only active competitor to the TCG-controlled Internet CG. The company is partly owned by Informatika Belgrade, a well established IT and system integration company. MontSky's infrastructure consists of a POP (point-of-presence) in Podgorica and a 2Mbps link to Serbia. The company is said to be planning

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expansion to Montenegro's other major cities, but has reportedly been frustrated by an inability to secure the leased lines it needs from TCG. MontSky has an estimated 4,000 dial-up customers, two-thirds of which are residential and one-third small business (including many foreign companies).

2.7.1 Broadband Access

The first form of broadband access available in Montenegro involved leased lines suited to large businesses. Telekom CG introduced DSL service in 2005, with reported targets of 6% penetration of households in a few years, and total Internet penetration of 25% of households. The DSL services available as of end-2005 are expensive (e.g. for residential users monthly fees are € 29.99 for a 512kbps (downstream)/128 kbps (upstream) service and € 42.99 for a 1,024/256 kbps service for residential customer, and € 59.99 and €127.99 respectively for business customers). Soon after it introduced ADSL services, Telekom CG removed the requirement it initially imposed that ADSL service required a subscription to an ISDN line. These ADSL charges are not out of line with charges in other European countries at the time these countries originally introduced DSL services, but are much higher (especially when considered in light of average incomes) than the charges that currently prevail in countries such as the Czech Republic (approximately € 20.60 and € 27.60 for the same 512/128 kbps DSL speeds for home users), and Latvia (approximately € 17.30 for 512/128 kbps ADSL service for home users). Estonia offers an ADSL/home telephone line connection "bundled" package with ADSL service at 1,024/256 kbps for approximately € 25.25 per month. It is worth noting that as of late 2005 the number of residential ADSL connections in Estonia reached 100,000 (ADSL service was first launched in 2000), or about one sixth of all households, which puts this small country at the forefront of broadband penetration among the new members of the EU. In some countries the speeds available over ADSL have been substantially increased compared to what is now available in Montenegro (whose maximum ADSL speed is 2048/512 kbps (€ 84.99 for home and € 213.99 for business customers per month)).

The Broadcasting Agency has announced its intention to issue cable TV licenses, but it is unclear at this time when and how extensive these licenses will be, and whether they will cover, in addition to video programming, broadband access services such as might be provided competitively to DSL via cable modems. Authorization of a cable TV operator to enter the broadband access telecommunications market would presumably require another or a second approval from the Agency for Telecommunications. This complication, as well as the uncertainty whether a cable TV operator offering broadband access could secure the necessary leased lines from Telekom CG to connect to the Internet means that as of today the prospects for competition in a future broadband access market segment are highly dubious without major changes and initiatives in the telecommunications environment.

At the moment there is no service overlap between the Cable TV and the telecommunications sectors. There is a private sector CATV operator, Budva Cabling, which has established itself in the coastal resort Budva. In cooperation with Telekom CG and the municipality, Budva Cabling has deployed a hybrid fiber coax (HFC) network. A

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customer base of about 5,000 thousand clients (homes and hotels) is offered a basic program package of 30 channels in four languages. Further growth and expansion plans of the company to cover the length of the Adriatic coast are hampered by uncertainty as to whether Telekom CG can provide fiber optic links.

Development of broadband access services and the question of cable TV development will be significant topics in the Electronic Communications Sector Strategy. The development of cable TV will have to take account of interactions and overlaps with current Broadcasting Strategy. For example, the “must carry free of charge” rule applies to cable TV operators for the public services which the Government is obliged to broadcast, and Telekom has to carry for the next 20 years.

2.8 Private Networks

Some organizations in Montenegro, as in other countries, operate their own, so-called private networks using facilities provided by public network operators and/or facilities they install themselves (e.g. fiber optic links along rights-of-way to which they have access and private wireless networks). Examples include Government Ministries, police and other emergency services, and utilities. While these organizations are therefore in some cases wholesale customers of public network operators, in principle they may also offer network services to other users and therefore compete in the public telecommunications market for some classes of telecommunications service.

The question of whether and if so how, and under what conditions, private networks may or should become competitors in the public telecommunications market has been considered in the Electronic Communications Sector Strategy.

2.9 Universal Service

The Universal Service (US) goal is one that many countries have adopted, albeit in different forms and with varied methods of financing. It can be regarded both as a social commitment (to improve the lives of all residents of a country) and to some extent as a goal for the Electronic Communications sector that will enhance the economic and other benefits it delivers through the “network effect.”¹⁴ As of this writing a US goal has not been defined or established in Montenegro, although that is one of the responsibilities of the MoE under the current Telecommunications Law.

The challenge associated with meeting the US goal is how to do so without introducing distortions into the telecommunications market itself and without favoring some competitors over others. These distortions may arise through the ways in which prices for telecommunications services are set and the financing of otherwise uneconomic network

¹⁴ The value of a network to each user increases exponentially with the number of people that are connected to it and can therefore be reached.

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investments is organized, so as to allow non-solvent customers to enjoy the use of the services that are considered to fall within the definition of US. In some examples, the financing of US is accomplished through explicit subsidies to network operators who undertake or are subject to the US Obligation (USO). In other cases the financing of US may occur in whole or in part through implicit subsidies, such as requiring businesses to pay higher prices for identical telecommunications services than residential users, even though the costs of providing these services to the former may be lower or at least no higher. This latter form of subsidy is one which is currently in force in Montenegro (and is also found in Serbia and the United States).

For the purposes of this discussion it is assumed that a USO is a desirable goal, for the benefit of the least economically fortunate members of society and to maximize the economic and commercial as well as the social benefits that can be generated by the uses of telecommunications. For example if the poorer members of society are connected to the network, government bodies and businesses can contact them in ways that can enable them to deliver the products and services of the public and private sectors more effectively and efficiently than if no communication by telephone or other electronic means directly to and from the persons or dwellings concerned is possible. Nevertheless there is in practical terms a limit to the amount of money that should be devoted to financing a USO. For example, it might be reasonable to set a limit along the lines of a percentage of the total revenues of the telecommunications industry.

Unfortunately, as noted, the ways in which the USO has been implemented and financed in some countries has led to problems as result of distortions of the rules of competition, and even perverse results. A geographic approach to the USO – e.g. where it is assumed that higher costs of network deployment in rural areas means that these areas must be subsidized – can result in affluent ski chalet owners being subsidized by poor inner city residents (precisely this situation occurs in the U.S.). Charging businesses higher prices for telecommunications than residences simply increases the costs of doing business, which are ultimately paid for by consumers, i.e. residential telecommunications users, the very people who are supposed to benefit from these subsidies. So the net effect of subsidization of residential telecommunications users by business telecommunications simply transfers some portion of consumers' expenditures from telecommunications to other products and services which they buy. Furthermore, in a competitive market in which one or only some network operators may be subject to the USO, any non-cost-based or non-value-based element in the prices of telecommunications services tends inevitably to lead to competitors' being able to engage in tariff arbitrage in which they are able to exploit "gaps" in pricing and capture customers of the "overpriced" services. This trend undermines the purpose of the implicit subsidy and may put the USO operator at an unjustified competitive disadvantage unless these other operators are obliged to add USO-related costs to the prices they charge their customers. Experience in many countries, from the United States to India, indicates that attempts to impose and collect USO-related charges from non-USO operators can generate administrative and other problems and introduce added complexity into billing (consumers become bewildered by the bills they receive) that may in the end prove to be a "cure" that is worse than the "disease". Much of the battle over the future of VoIP (voice-over-Internet Protocol)

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services revolves around whether they will be subject to the same USO-related charges as traditional circuit-switched voice services. The intensity of this controversy is related to the fact that in many cases these USO-related charges comprise a significant, and sometimes even the largest, cost component of the retail prices paid by the consumers of some voice services.

In principle, if the USO is regarded as primarily a social commitment, it should be paid for out of a society's total resources, in other words out of the Government's overall budget, or general taxation, rather than from the telecommunications sector alone. While theoretically ideal, in practice this approach has not been widely adopted (Chile is an exception) and is generally seen as being politically unacceptable. In a country such as Montenegro, which is struggling to improve its economy after the devastation of the 1990s, and where telecommunications is one of the few and the most prominent relatively prosperous sectors, the argument that all sectors of the economy should in effect subsidize the USO is even less likely to be acceptable than in richer nations. Nevertheless, there are better ways to fund the investments and operating costs incurred in fulfilling the USO than by applying extra fees or charges or taxes (different names are applied to what is effectively the same thing since some names arouse less resistance than others) to selected telecommunications services. The least amount of competitive distortion is caused by levying a charge of some percentage of total telecommunications revenues of participants (network operators and service providers and perhaps others) in the sector to create and maintain a US Fund (USF) whose resources are distributed either to companies who accept and/or are assigned - and then fulfill - US responsibilities, and /or possibly directly to poorer consumers, in the form of vouchers, who can use them to defray the costs of purchasing telecommunications services that would otherwise lie beyond their means.

The scope of the participants required to contribute to the USF has to be decided. As a minimum it should include all network operators and services providers, except possibly the smallest ones whose revenues fall below some cut-off point. In the cases of companies that offer telecommunications services among other products and/or services, it is necessary to specify what counts as telecommunications revenues for the purpose of calculating their USF contributions. More broadly, participation in the USF may be expanded to include, for example, telecommunications equipment suppliers, ISPs, cable TV operators, or broadcast and media companies, all of whose businesses are inseparable from the use of telecommunications resources and facilities of various kinds. An expanded range of contributors to the USF not only reflects the phenomenon of "convergence" (or "collision") that is being fuelled by the era of broadband digital communications, but goes part of the way towards applying more of a society's resources into achieving the community's goal of US instead of relying only on those available from within a narrow and traditional definition of the telecommunications sector.

Another question to consider is whether the funds from the USF should be distributed directly to the operators or service providers who have a USO, or alternatively should be given to users, for example in the form of vouchers that can only be applied to telecommunications bills, whose lack of economic resources qualify them for this kind of

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subsidy. In principle, the latter approach allows subsidization of the costs of telecommunications services to be directed more specifically at people who need it, whereas the former approach is more likely to lead to lower telecommunications prices for some customers who are capable of paying a “free market” rate, because everyone living in a specific geography, regardless of their income, benefits from the lower, USF-subsidized prices which the USO operator charges.

Choice of the preferred solution for Montenegro at this time should be based more on practical realities than on some theoretical ideal. Would the identification of eligible people and households and the administration of a system to distribute telecommunications vouchers be hard and relatively expensive to set up and run, and susceptible to abuse? Is there by and large a fairly clear geographic distinction between the areas of residence of the poorer people and households who cannot afford “market rate” telecommunications, or are the various socio-economic groups densely intermingled? If the answer to both of these questions is “yes”, then it makes little sense to consider direct USF subsidies to users.

In parallel or even prior to defining a funding mechanism, the scope of US has to be defined. This scope will change over time – today’s luxuries are tomorrow’s necessities – as our understanding and experience of what is required to be a full social and economic participant in society evolves. Originally, the definition of US only covered basic public switched telephone service, and indeed was further limited to a wired telephone connection. In today’s technological and market environments, it is much more appropriate to define US from the perspective of services only – with technological neutrality as to how these services are to be provided – and to consider in addition when, how and what kinds of Internet access should be included.

While one operator may have to be designated as a US provider of last resort if no one else is willing to take on this obligation, thanks to technological progress and “lean” approaches to running a telecommunications business, the potential for other operators to see how to meet a USO profitably at lower costs than, say, a traditional incumbent telephone operator should be taken into account. Thus, in a competitive environment, the idea of requesting bids to meet a USO in an area or region becomes attractive as a means of minimizing its costs.

One element in the formulation of the Electronic Communications Sector Strategy has involved the desirability and potential scope and operation of a Universal Service which has been assessed with the following ideas in mind:

A. Scope

- ✓ Basic switched telephone service, including typical features such as free access to emergency and operator services
- ✓ Reasonable availability (with specified coverage targets in terms of geography (e.g. every village) and number per thousand population) of public payphones

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- ✓ Reasonable (with specified coverage targets expressed as with public payphones) access to the Internet at dial-up speeds, through shared or public access points-of-service (sometimes called “telecenters”) such as might be installed in public buildings such as libraries, schools (internet access by students is another desirable goal), post offices, municipal buildings etc.

B. Funding and Operation

- a. The costs of meeting US targets should be:
 - i. Covered by sums paid by telecommunications operators and service providers, and possibly other telecommunications-dependent and-related entities, as a percentage of their revenues into an independently administered (by the AT or a body designated by the AT) US Fund
 - ii. Minimized by the use of competitive bids to provide US.
- b. Unless a straightforward and easy-to-administer way can be found to distribute telecommunications subsidies directly to eligible recipients, the sums from the USF should be distributed to the operator or operators who have or who take on a USO, based on the costs they agree to in a successful US bid, or that they justify through approved accounting and reporting procedures
- c. Practical limitations on the costs or subsidies required to meet a US goal will be examined, that may lead to constraints on the scope of the US itself and/or the speed with which it can be implemented.

2.10 Conditions for future growth and enhancement of the Electronic Communications Sector

The demand for telecommunications services in the next few years will be affected by the overall strength and growth of the Montenegrin economy, whose prospects for the moment are modest at best.

The narrowband (copper pair-based) coverage in urban areas, and hence one of the key pre-conditions for broadband DSL service is good, as is the bandwidth installed in the inter-urban network. Another positive factor is found in the extensive coverage of the territory that has been achieved by both GSM mobile operators.

However, this combination of factors – potentially slow growth in demand plus relatively well-developed basic network infrastructure – when coupled with the existing unfavorable licensing regime, means that the attractiveness of Montenegro for additional operators investing in their own infrastructure is likely to be low. There is a risk that under these circumstances the existing operators will be content with what they can achieve with relatively little innovation and new investment, and an implicit understanding about sharing the market between them, i.e. resting upon their laurels.

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This scenario would not best serve the broader interests of Montenegro in terms of growing its Electronic Communications sector and benefiting from the value this sector can deliver for the strengthening of other sectors of the Montenegrin economy as well as for meeting its social goals.

So in order to stimulate the competition that will prevent existing operators from becoming complacent, attention has been paid to:

- Establishing an environment in which existing operators are stimulated to introduce new and enhanced services
- Ensuring that new services providers are able to introduce and sell their services using the infrastructure of existing operators (fixed and mobile), including the transmission facilities themselves and other assets such as buildings and towers (co-location) under reasonable conditions of costs and access.

2.11 CONCLUSIONS: TRANSITION TO THE VISION

Montenegro will pursue policies to realize and sustain the vision for the Electronic Communications Sector that was outlined in Chapter 1. It needs to implement a transition that has already been initiated from its traditional monopoly market structure to a competitive market environment as rapidly as is practically possible, taking account of its current position as described in the preceding sections of this chapter and of anticipated circumstances, notably the:

- Realities imposed by the current state of Montenegro's economy and the purchasing power of its residents, which today are substantially inferior to the average of current EU member countries, and are still recovering from the severe impact of the breakup of Yugoslavia and the armed conflicts that ensued in the 1990s;
- The Government's financial position (e.g. 2005 budget deficit of almost 52 million euros in a budget of over 481 million euros or about 30% of GDP¹⁵) and the paucity of internally available financial resources for new public investments, as well as the difficulty of finding adequate electronic communications sector expertise within the public administration, which accounts for an unusually high percentage of the labor force by international standards (over 30% compared to typical figures of between 6-10% in EU members¹⁶);
- Influence of Electronic Communications Sector policies and principles enunciated at the level of the EU, in light of the will and desire on the part of Montenegro to move actively towards compliance with the European Union's (EU) Directives on Electronic Communications in their most recent 2002 incarnation, recognizing

¹⁵ Source: Ministry of Finance; deficit was financed largely by one time revenues from privatization (mainly Telekom CG)

¹⁶ Source: Montenegro Business Alliance

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however that these policies are themselves in a state of flux and allow individual countries significant margins of flexibility in how they are implemented, if justified by variations in local national conditions;

- Specific local conditions in Montenegro, such as:
 - Its very small market (approximately 620,000 residents according to the 2003 Census¹⁷);
 - The foreign control of the two existing public telecommunications operators by Europe-based operators, namely the incumbent Telekom Montenegro (Telekom CG) which was privatized and acquired in April, 2005 by the Hungarian incumbent Magyar Telekom, (Matav, a member of the Deutsche Telekom Group, whose total annual revenues exceed 55,000 million euros¹⁸), and the leading mobile GSM operator ProMonte, which is 100% owned by the Norwegian incumbent Telenor (whose total annual revenues exceed 7,500 million euros¹⁸);
 - The continuing de facto public fixed network monopoly of Telekom CG, despite the formal removal of this monopoly at the beginning of 2004 (Article 27 of the current (2000) Telecommunications Law gave the exclusive right to provide public fixed telecommunications services to Telekom CG until December 31, 2003), while there are two competitors in the mobile market, with Telekom CG's mobile subsidiary having today the smaller market share;
 - Need to accommodate a recurring peak in telecommunications traffic that is of limited duration due to demands during the height of the tourist season;
 - The terrain of Montenegro which in the many mountainous parts of the territory poses significant challenges for the installation of networks, but at the same time, with its coast line, forests and canyons as well as mountains, offers great potential for tourism, a business that is telecommunications-intensive, and
 - The current circumstance of Montenegro after achieving its independence following the referendum on the State Union with Serbia in May, 2006, which has among other consequences the need for the Republic to apply for membership in international organizations for telecommunications.

In addition, Montenegro will take account of lessons from the experiences of other countries that liberalized their telecommunications markets earlier and of the continuing rapid developments in telecommunications technologies and market

¹⁷ Source: Monstat (Statistical Office of the Republic of Montenegro)

¹⁸ Deutsche Telekom's revenues are over 35 times, and Telenor's over 5 times the size of Montenegro's Gross Domestic Product (GDP), estimated at 1,480 million euros (2004)

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dynamics which are creating a very different context for Montenegro's liberalization than that which prevailed in the 1980s and 1990s. Critical aspects that Montenegro will address include:

- The timing and schedule for the further implementation of regulatory reform which has already been initiated;
- The pace and scope of tariff rebalancing, which has also been initiated (involving both the adjustment of the relative prices for local and national and international long distance calls as well as removing the differential between the higher prices charged to business as compared to residential customers);
 - It should be noted that tariff rebalancing initiatives should address not only the traditional issue of the ratios between the prices of local, national and international long distance calls over the fixed network, but also the large, non cost-based discrepancies that have arisen recently between the higher prices of calls that involve mobile handsets as compared to those between fixed telephones only (this latter discrepancy is notable throughout Europe but absent within North America, for example).
- The approach to critical inter-operator issues notably interconnection, the pricing of wholesale services, and the conditions of open network access.

At the same time, Montenegro will pay attention to emerging developments, so as not to fall into the trap of introducing policies that are only defined by the past and present and fail to anticipate the future, notably the:

- Move towards multi-service packet switched networks at the expense of traditional circuit-switched networks for voice traffic, and to replace the use of largely separate networks for voice and non-voice traffic;
- Increasing need for coordination of policies between the formerly largely distinct arenas of telecommunications, information technology, and media/broadcasting, as a consequence of the move to multi-service digital packet switched networks for all forms of traffic;
- Eclipse of voice as the dominant source of telecommunications traffic volume by non-voice data, image, and video streams, posing a challenge to the major fixed and mobile telecommunications network operators whose revenues have been, and still are, dominated by voice services;
- Move to different pricing structures for connectivity services, leading to: (i) greatly reduced distance dependence; (ii) much lower prices and margins when expressed in terms of euros/unit of bandwidth or bits per second; and (iii) increasing weight of subscription-based charges relative to usage charges;

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- Mix of mutual reinforcement and competition between fixed and mobile telecommunications services, which raises strategic business questions about the relative roles and value of fixed-only versus mobile-only versus fixed/mobile operators, and provides a logical basis for applying the same basic principles to, and taking into account the mutual interactions between mobile and fixed communications services markets when formulating regulatory policies and actions, rather than treating them independently as has been the prevalent practice in regulation until now¹⁹;
- Increases in the volumes of telecommunications-dependent social and business interactions that involve participants located anywhere in the world and not just those who are concentrated within any one nation or even region.

Consequently in its policy formulation for the Electronic Communications sector Montenegro is seeking to:

- Foster healthy and fair competition that will stimulate innovation in services and investment in new network technologies from as wide a variety of sources as possible, both domestic and foreign, and including new as well as traditional electronics communications actors. However, Montenegro will not encourage new competitors whose business proposition is based solely upon the exploitation of tariff arbitrage opportunities afforded by unbalanced tariff structures that, although destined to be removed, may persist for some time into the future - the benefits of competition in these cases are limited to price reductions for the relatively small numbers of customers who can take advantage of tariff arbitrage, while the majority suffer from the consequences of the revenue diversion from operators who are competing on the basis of genuine innovations in services and/or operations;
- Build flexibility and future-orientation into its policies that acknowledge the fundamental transformations occurring in the Electronic Communications Sector worldwide and the uncertainties that are inherently associated with these transformations. One example in this context is the observation that in future multi-service packet switched networks the allocations of shared network costs to different services for the purposes of setting cost-oriented prices for individual services, that may be necessary today to help initiate competitive market entry, will become so utterly arbitrary that these procedures will become meaningless. They should therefore be regarded as a transitional requirement. Another local example of desirable flexibility is that as long as there is no competition in broadband-capable access network facilities, which is today's situation, making reasonable broadband wholesale offers available from Telekom CG is important in order to enable competition at the services level. However once and if such

¹⁹ Many full service incumbent operators, including Telekom CG and its new ultimate parent Deutsche Telekom, are facing the challenge of how to cope with declining revenues from their fixed network services (thanks to the combined impacts of fixed-to-mobile substitution in telephony plus decreases in the market prices of fixed telephone services) and rising revenues from their mobile services

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competitive access facilities become credibly established (e.g. via cable networks and broadband wireless) any regulatory obligations imposed on Telekom CG in such areas as unbundled local loops (ULL) may be relaxed or even removed;

- Take advantage of the lessons (both positive and negative) that can be learned from the experiences of other countries that have followed similar paths towards liberalization of their telecommunications (or now Electronic Communications) markets earlier than Montenegro – so as to avoid doing harm and to do the right things right.

In particular, Montenegro will:

- Adopt best practices from the EU and elsewhere but adapt them to its specific circumstances as, where, and when this is justified;
- Recognize the special role and situation of Telekom Montenegro in respect of: (a) its position as the inheritor of major past investment and policy decisions; and (b) its current and likely future continuation as the major provider of fixed network facilities, especially in access networks;
- Apply similar regulatory principles (in light of their comparable importance) to mobile communications networks and services as to fixed, notably in deciding when, where and how to introduce or remove or relax obligations on operators designated as having Significant Market Power (SMP) – recognizing however that a desirable long term goal is to minimize the need for regulation by relying on competitive market forces to sustain a healthy electronic communications sector that delivers long term benefits to customers and to the economy as a whole;
- Seek to create an environment in which potential new investors in the Sector (both domestic and foreign) can make reasoned commercial judgments on the attractiveness of the investments they are contemplating (risk/reward), without having their assessments distorted by unreasonable barriers to entry such as excessive, i.e. non cost-based, authorization or licensing fees, or unreasonable obstacles to their use of the network facilities of existing operators where required to enable them to provide services to the customers they are targeting;
- Practice a technology-neutral approach in regulation:
 - For example, the provision of Universal Service will allow for the use of wireless access technology as well as fixed access networks, with the choices of technology to be based upon the relative economics of proposed alternatives, provided the service requirements are met;
- Make use as far as possible of incentives to encourage operators to achieve various goals as well as, or in a judicious mix with, penalties for violations;

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- For example, in any regime of cost-oriented pricing, operators will be allowed to keep some proportion of continuing cost savings they achieve and will not be obliged to reduce their prices by the full amount of their future cost reductions (see Appendix 3A for an outline of the principles behind incentive-based regulation, which is based more on achieving goals through encouraging “good behavior” than on punishing “bad behavior” as in command and control regulation);
- Create as soon as possible clear and reasonable conditions for the development of cable distribution networks in the Republic that can be used to deliver programming and other content and to provide electronic communications services in competition with telephone networks;
- Coordinate and ensure the consistency and mutual support of the Electronic Communications Strategy with the Republic’s overall ICT (Information and Communication Technologies) Strategy.

In the longer term, Montenegro will seek to minimize the need for and hence burden of direct regulatory intervention, relying primarily on the existence of effective and sustainable competition to achieve its goals in the Sector. The ultimate goal will be to intervene by regulation only where necessary to prevent or stop abuses of a strong market position by one or a small number of suppliers, or to protect the interests of customers (individually or as expressed through explicit social goals) that may result from such abuses or from other causes. Electronic communications sector-specific regulation will be complementary to general commercial and competition law, to take account of specific characteristics of this sector such as the nature and rapid pace of technological change and the necessary and critical role played by network interconnections between competitors.

The basis upon which Montenegro is pursuing policies designed to stimulate competition in the Electronic Communications Sector is that competition is a proven and necessary (but not sufficient) means to accomplish the ends of ensuring that:

- a) Residential, business and other users of electronic communications services in the Republic can exploit and enjoy all the benefits which these services can generate; and
- b) A healthy investment and business climate is created and sustained for the Sector itself.

The Strategy to achieve these goals addresses in particular the following priorities:

- Amendments to the current Telecommunications Law according to EU Directives, as well as to all related Laws, to establish a more solid and consistent legal framework for the stimulation and supervision of competition in the Sector;

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- Need for additional and /or amended Laws to establish a comprehensive legal and operational framework within which network-based services for both commercial and government applications (broadly e-business and e-government) can be developed coherently and at reasonable risk without the providers being subject to opaque, ill-defined or arbitrary procedures at the central or local government levels;
- Competencies, Funding, and Priority Activities for a restructured Sector regulator, the Agency for Electronic Communications and Post(AECP), ensuring that this Agency possesses all the necessary human and financial resources and competences to formulate and enforce the byelaws or sub-regulations that are needed to give life and practical force to the Strategy;
- Organization of the Government to improve its effectiveness and efficiency for, and minimize the investment and operating costs incurred in the planning and implementation of the electronic communications networks and services it needs to provide services to its customers, i.e. Montenegro's residents and businesses
 - As a major user of electronic communications services and hence a major source of revenues for the Sector, the State administration can influence in a significant way the behavior of network operators and service providers by the intelligent use of its substantial (within the scale of the local market) purchasing power;
- Mechanisms to overcome or effectively mitigate the constraints and problems posed by the relative scarcity of financial resources and human expertise and experience in the Electronic Communications Sector within the Republic, in particular the difficulty of attracting and retaining such expertise within the State administration, given the lower compensation levels it offers compared to other employers.

As emphasized earlier, the Strategy and its accompanying tactics must be flexible and adaptable to changing circumstances, whether these changes are driven by forces that are external to Montenegro or by internal developments. The Strategy should be accompanied by a number of specific time-dependent goals that are primarily oriented towards the services and benefits available to users or customers, and their experiences.

2.12 Specific Goals and Targets

This Chapter has presented an assessment of the current status of the Electronic Communications Sector in Montenegro. As a result of this assessment several specific high priority goals have been identified to overcome existing weaknesses and to build a sector which can be one of the drivers and enablers for the Republic to achieve its economic and social objectives. These goals, for some of which indicative quantitative targets are presented below, include both descriptions of the means to enable progress, as well as definition of the desired outcomes from the application of these means:

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A. MEANS

- Introduction of credible, effective and efficient competition into the market for fixed communications networks and services;
- Introduction of credible, effective and efficient competition into the market for Internet services;
- Modifications in the regulatory framework for the sector to conform more closely to the principles and policies embodied in the Directives of the European Union and to facilitate progress towards the preceding goals;
- Efficient use of scarce resources notably spectrum;
- Creation and enhancement of awareness both within Montenegro and abroad of the value, commitment and progress of Montenegro with respect to its ECS and ICT infrastructure and services, to build a strong national “brand” such as several countries in the Nordic region and Estonia have established over the last decade.

B. OUTCOMES

- Improvements in the capabilities and price/performance of electronic communications services to be competitive within a broad benchmark of European countries;
- Availability of widespread affordable broadband access services to consumer and business users in the Republic;
- Substantial and growing usage by residents and businesses of online information and transactional services in their interactions with the Government and for their own business, commercial and social purposes.

Progress towards these goals should be measured and assessed at regular intervals, at least annually, so that they can be modified and/or additional or reinforced actions taken if it appears that progress is slower or faster than hoped.

An initial set of indicative targets is presented in the following Table, taking account of the relatively high penetration that has already been achieved of basic fixed and mobile telephone services, and indicating which Government Ministries and agencies should take prime responsibility for achieving these goals and monitoring progress over time.

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TABLE 2.5: INDICATIVE TARGETS FOR THE ELECTRONIC COMMUNICATIONS SECTOR

| Description of Goal/ Primary Responsibility | Three Year Goal (2009) | Five Year Goal (2011) | Ten Year Goal (2016) |
|--|---|--|--|
| Basic Telephone Service (fixed and/or mobile)/AECP+MoE | Effective universal access | Effective universal access | Effective universal access |
| Prices of Fixed and Mobile Telephone Services (OECD baskets ²⁰)/AECP+MoE | Goals to be established by the Ministry in cooperation with the Agency, with the expectation of significant reductions below 2005 levels in some, but not necessarily all segments | Equal to or better than the average of all European countries | In top quartile of all European countries |
| Internet Access/AECP +MoE | At least 1 public or shared access location in every municipality; “one home, one internet access” and “all businesses on the internet” campaigns | Achieve level of Internet use reached in Estonia in 2005, i.e. 50% of population use the Internet | Almost 100% of households and all businesses have access to the Internet ²¹ |
| Broadband Access/AECP+MoE | Penetration of broadband (512 kbps downstream minimum) reaches 3/100 population; significant number of public locations and businesses (e.g. hotels, cafes, libraries etc.) offer wireless access; 3G-type mobile services launched | Penetration of broadband reaches 12/100 population (level of Estonia in 2005); downstream speeds >1Mbps are common; nomadic wireless access is widespread; significant numbers of 3G+ mobile users | Majority of households and almost all businesses have broadband access; nomadic wireless access is ubiquitous; downstream speeds of 3-5 Mbps are common; widespread use of 3G+ mobile services |
| Digital Broadcasting/AECP+ MoE+ MCM (MCM: Ministry of Culture and Media) | Initial deployment of digital broadcasting | 60% household coverage | All-digital broadcasting - shut down of analog broadcasts |
| E-Government Services/Secretariat | Goal to be established in terms of % of basic public | Goal to be established in terms of % of basic public | Suggested long term goal: Full online |

²⁰The Organization for Economic Cooperation and Development (OECD) has developed a number of baskets for the comparison of the prices of mobile and fixed telephone services between countries assuming various usage patterns, providing a basis for assessing the comparative pricing level of telephone services in Montenegro against a wider range of countries than in the comparisons employed to date

²¹ According to WSIS Action Plan, which includes access to the internet via telecenters

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| | | | |
|--|--|---|---|
| for Development + respective Ministries | services (see App. 4) for business and residents available on line | services for business and residents available online | availability of basic public services |
| ICT in Education/MoE + MES (MES: Ministry of Education and Science) | Goals to be established between the MOE, and MES* as a ratio (number of students/PC), and penetration (% of schools with a broadband Internet connection ²²) | Goals to be established between the MOE and MES as a ratio (number of students/PC, and penetration (% of schools with a broadband Internet connection ²²) | Suggested long term goals of: One PC/student; All schools have a broadband connection to the Internet |

²² May wish to establish different target ratios for primary and secondary schools

3. RECOMMENDATIONS

This Chapter describes the key recommendations of the Sector Strategy, their backgrounds and the justifications on which they are based.

3.1 Recommendations regarding regulation and legislation

3.1.1 Amendment of the Telecommunications Law and associated amendment of the Broadcasting Law

Background and Justification

The current legal framework for the Electronic Communications Sector suffers from several ambiguities, inadequacies and lack of clarity with respect to the roles of two Agencies (Telecommunications and Broadcasting) and the rules of the game that current and potential operators and service providers must or should follow. This situation is not dissimilar to that which has arisen in other countries. It is at least in part due to the failure of existing legislation and regulation²³ to keep up with basic changes in the environment for electronic communications such as convergence and the increasingly important role of Internet-based services. In addition, the existence of two regulatory Agencies with overlapping responsibilities creates financial inefficiencies (the costs of separate facilities and services that could be shared) that are especially hard to justify in the financially constrained environment of Montenegro.

The following recommendation is designed to establish greater coherence and clarity and eliminate unnecessary administrative costs for the legal and regulatory framework for the Electronic Communications Sector.

RECOMMENDATION R0 – AMENDMENTS OF THE TELECOMMUNICATIONS LAW AND ASSOCIATED AMENDMENTS OF THE BROADCASTING LAW

The Telecommunications Law, renamed the Electronic Communications Law, should be amended with respect to the roles, competences, and governance of the regulatory agency for this sector. The goals are to create an environment that strengthens the potential for competition in the provision of electronic communications networks and services in Montenegro taking account of the convergence between broadcasting and telecommunications infrastructures, and the emerging importance of multi-service packet switched networks and broadband access, and to make the Law more compatible with the European Union Directives. These amendments have implications for and require parallel

²³ For example, the 1996 Telecommunications Act in the U.S. only made **one** mention of the Internet, and that was in connection with the transmission of obscene material, a provision that ironically was declared unconstitutional by the U.S. Supreme Court

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compatible amendments to the Broadcasting Law. All matters and competences pertaining to the regulation of networks and network services of all kinds (i.e. the transport of content) should be covered under the Electronic Communications Law, while the Broadcasting Law should deal with regulation of the content. Its current references to frequency management and the authorization of cable distribution networks should be transferred to the Electronic Communications Law, although the requirement for coordination between the regulation of networks and of the content transmitted over them should be clearly emphasized (see Recommendations R2 and R3 below).

The proposed changes should be implemented in such a way as to preserve the progress achieved in recent years with regard to media or content legislation and regulation. For example, the distinction will be maintained between the amended Broadcasting and Telecommunications (or Electronic Communications) Laws, and the activities of the combined regulator will be governed by both Laws applied to their respective areas of activity. The critical interfaces or activities where coordination and cooperation between transport (or ECS) and program content regulation are essential will be identified in the two Laws.

3.1.2 Relationship between Legislation in the Electronic Communications Sector and Other Legislation

Background and Justification

The development of markets in the Electronic Communications Sector will be affected by the climate and opportunities for the development and implementation of online and network-dependent applications and services that themselves make use of electronic communications networks and services and therefore generate traffic and revenues for the Sector. Hence the Sector Strategy should pay attention to legislation that affects the ability and interest of businesses, the Government itself, and consumers in adopting online services within their everyday operations and activities.

RECOMMENDATION R1 – COORDINATION OF ELECTRONIC COMMUNICATIONS SECTOR STRATEGY WITH OTHER LEGISLATIVE INITIATIVES

The Ministry of Economy, which is responsible for policy in the Electronic Communications Sector, should ensure its active coordination with other Government bodies and interested parties who are involved in the preparation of amendments to existing Laws and the introduction of new Laws in those areas that will influence the prospects for the development of new and improved online applications and services. The new Law on Electronic Communications should include language that explicitly recognizes, and specifies coordinating activities to take account of, the mutual impact on the Electronic Communications Sector of other legislation (current and envisaged) that will influence the Sector's growth and market development. This other legislation includes but is not limited to the most directly relevant area, namely the Broadcasting

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Law (see preceding Recommendation R0). Other laws that will have an impact upon the Electronic Communications Sector, by virtue of their influence upon the investment climate for the ECS and/or the prerequisites for the development of widely trusted network-dependent e-government and e-business services, include (an illustrative, not necessarily exhaustive list):

- ✓ Intellectual property rights
- ✓ Security and privacy
- ✓ Consumer protection
- ✓ E-commerce
- ✓ Digital signature
- ✓ Municipal Finance (see also Recommendation R10 below).

In some cases, these Laws have not yet been established (e.g. the Consumer Protection Law had not been approved by Parliament as of May, 2005), while in others modifications may be necessary (e.g. Law on Municipal Finance, see Recommendation R10 below).

3.1.3 Restructuring of Regulatory Agencies

Background and Justification

The organization, governance, competencies, roles, and activities of the regulatory institution or institutions that are best suited to the Electronic Communications Sector in Montenegro must reflect forces and trends that are apparent at global and regional levels as well as the specific circumstances of the Republic. These specific circumstances include the very small size of the country's market, its limited human and financial resources, the economic and social aftermath of the disastrous events of the 1990s, as well as the most recent developments in its telecommunications sector, most notably the acquisition of the incumbent Telekom Montenegro by the Hungarian incumbent Magyar Telekom (Matav), which is itself owned by Deutsche Telekom.

Both global and regional, especially European and most notably European Union (EU) - related factors and forces (such as the EU Directives on Electronic Communications), favor a consolidation or combination of the *technical* regulation of broadcasting and telecommunications infrastructure into one body, while leaving more open the question of whether the regulation of content, such as broadcast programs, should be assigned to the same regulator as technical regulation. We do not deal in this document with the regulation of postal services, which lies outside the scope of this project, but note that postal regulation has recently become a responsibility of the current Agency for Telecommunications (which has changed its name to ATCP (Agency for Telecommunications and Post)), as is the practice in many other European countries.

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So from the global and regional perspective, two broad alternatives emerge for Montenegro:

1. Full combination of the current AT and Broadcasting Agency (BA) into one regulator, the Agency for Electronic Communication and Post (AECP) – as noted earlier the AT has already become responsible for postal regulation; this approach establishes a “convergent” regulator such as are found in Italy and the U.K. in Europe as well as in countries such as Canada, South Africa, and Malaysia, although many other countries maintain different regulators for telecommunications or electronic communications, and media, for example France, Belgium, the Czech Republic, Ireland, and the Netherlands.
2. Transfer of all technical responsibilities of the BA (e.g. those related to frequency allocation and monitoring, and to the establishment of conditions for cable TV systems) to the AT, retaining the BA as a separate content regulator.

There are arguments in favor of and against both alternatives. These arguments are summarized in the following paragraphs, although the Government of Montenegro took the decision prior to this project (announced in its “Agenda for Economic Reforms, 2002-2007”), to combine the Agencies as part of its efforts to reduce the costs of government by decreasing the number of regulatory bodies. A single Agency would enable the sharing of common infrastructure (such as buildings, monitoring system and vehicles) as well as of some human resources in the areas of frequency management, monitoring and control, international affairs, finance, accounting, consumer protection, legal services etc., to reduce the total costs of regulation. It would also facilitate necessary coordination between the regulatory activities of content/programming and the technical and market aspects of electronic communications, which is becoming increasingly important in the emerging environment of converged networks (e.g. in which television and radio broadcasting is being introduced over the Internet and DSL access facilities as well as broadband cellular networks) This single Agency could develop a common regulatory philosophy and culture based on transparency and fairness. It could facilitate the interaction between content and network regulation that will be increasingly needed in future to apply both types of expertise to deal with questions arising in the context of new forms of interactive content that are being enabled by new technologies. It would enable a desirable “one stop shop” licensing regime to be implemented for operators that offer both telecommunications and broadcast carriage services and depend on scarce resources such as spectrum and rights-of-way.

On the other hand, it may be argued that the disciplines and culture required for content and technical regulation respectively are so different that combining them under one organizational umbrella would run the risk of causing one of them to become unjustifiably subordinate to the other if the overall organizational culture is dominated by the latter’s culture. However, this last concern has not prevented other countries from adopting the structure of one regulator for electronic communications and broadcasting. The arguments in favor of a “convergent” regulator refer to the benefits of cross-learning between separate disciplines that can be achieved within such an organizational framework, enabling regulators to tackle and develop solutions for the challenges posed

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by convergence from new multidisciplinary perspectives. Effective leadership should be capable of balancing the dynamics of different cultures within one organization, as many businesses have to do (e.g. the balance between the very different cultures of successful sales people as contrasted to engineering or product development staff). Furthermore, in Montenegro's difficult financial circumstances, significant priority should be given to ways of reducing the total costs of government, including those of its regulatory activities.

Hence on balance, Alternative 1 is preferable for Montenegro. Although the disciplines of *technical* and *content* regulation are very different, which must be reflected in the internal organization of a combined regulator, nevertheless there are sufficient economies that can and should be achieved in Alternative 1 as compared to 2. The public sector in Montenegro must maximize its economic efficiency if it is to be effective and perceived favorably by the population of the Republic.

This conclusion in favor of Alternative 1 (the single AECF) is subject to the formulation and implementation of effective governance principles to ensure the independence of the regulator from "undue" influences both from the companies it is regulating and from the Government, and to harmonize the very different principles which currently define the governance of the two Agencies. It should be noted that several other countries, albeit a minority so far, have combined their electronic communications and broadcasting/media regulators, including Italy, the U.K. and Bosnia & Hercegovina in Europe, and in other regions Malaysia, Australia, South Africa, and Canada. One very small country Iceland (population about 290,000) also provides an example of a combined regulator. Interestingly Iceland ranks very high globally on several comparative measures of capabilities and achievements in ICT (Information and Communications Technology), e.g. it was ranked number two overall on the Network Readiness Index in the Global Information Technology Report, 2005 (World Economic Forum),

The challenge of implementing principles of good governance for a proposed combined regulator is complicated by the different principles that are apparent in the current procedures for managing the AT and BA. The former reports to, and its Director is appointed by, the Government (Ministry of Economy), while the latter is governed by a Council whose members are nominated by the Government; the University of Montenegro; Broadcasters' associations in Montenegro, excluding associations of public broadcasting services; non-governmental organizations and citizens' associations involved in the protection of human rights and freedoms; and non-governmental organizations in the media sphere. The Council's members must be ratified by Parliament. This Council appoints the Director of the BA in a public tender process.

The merit of the BA type of governance is that it clearly demonstrates independence of the regulator from the Government, which is one of the criteria specified in the Council of Europe's Recommendation for the broadcasting sector (R(2000) 23 of December 23, 2000) as well as in the EU's Directives on Electronic Communications (this is an especially sensitive issue if the regulated sector includes state-owned competitors), and is being monitored by the European Commission in Montenegro and in other countries in

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Southeast Europe that may become, or already are, candidates for EU membership. In contrast, today's AT is more dependent upon the Government, a point that is reinforced by the requirement that any surplus funds it may have in any year must be turned over to the Government, rather than applied to purposes that are directly related to the Electronic Communications Sector. However, the recent privatization of Telekom CG means that one major source of conflicts of interest has been removed, namely that between the Government as supervisor of the regulator of Electronic Communications, and its position as majority shareholder in the major telecommunications operator whose financial prospects (and hence ability to deliver profits to the Government) are inevitably affected by this regulator's decisions.

However, independence of regulation over the ECS as presented at the regional level in EU Directives and at the global level in the context of the World Trade Organization (WTO), to which Montenegro has submitted an application for membership, has two fundamental attributes:

- ✓ Independence of the regulator from the electronic communications industry (that has been largely achieved through privatization) and from the other industries for which it has regulatory responsibilities; and
- ✓ Independence of the regulator from the department with policy jurisdiction within a given government, i.e. in this case the Ministry of Economy.

This expectation has led some countries that have liberalized their ECS to establish a regulatory agency that is legally separate from the ministry or department of jurisdiction for policymaking in the sector. This separation is seen as particularly important in parliamentary systems where the minister of jurisdiction is usually an elected member of the legislature. Consequently, both the WTO standards (through the General Agreement on Trade and Services or GATS) and international best practices suggest that Montenegro's electronic communications regulatory agency should be structurally separate from the Ministry of Economy. However, the structure adopted for the ARD in Montenegro, with the direct participation of multiple constituencies in appointing the leadership of the Agency has the disadvantage of involving many people (in these constituencies, not necessarily the Agency itself) who lack any real expertise or experience in electronic communications, with the likely result that key decisions about important positions will be made on the basis of political or other forms of compromise between interest groups rather than upon the relevant qualifications of candidates.

A second reasonable alternative, in which the new Agency for Electronic Communications and Post would report through the Government to the bodies that appoint its Councils, can be established by building stronger guarantees of independence and autonomy of decision making and action into the Law and statutes of the Agency. It should also be noted that many EU members have adopted this second alternative, in which the regulatory agency is supervised by the Ministry responsible for policy making in the sector. Furthermore as noted the major source of potential conflicts as far as

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Government-Regulator relationships are concerned – the ownership of the incumbent by the Government - has just been removed.²⁴

Independence of regulation has other attributes, the most important of which is the financial independence of the regulator from the policymaker. In a number of countries, the ECS regulatory agency has been permitted to retain revenues derived from license fees, administrative fees, fines and service fees. An arrangement of this type provides protection against political control over the ability of the agency to carry out its responsibility. This test of financial independence is relatively easy to meet – the revenues and budget expenditures of the regulator should be controlled by the Agency itself and not subject to approval or control by the Ministry of policy jurisdiction. This does not mean that the regulator should not be held accountable for budget management. Such accountability can be to the ministry or agency responsible for overall budget management within the government or it may be directly to the legislature or parliament. In this context the current statements in the Telecommunications Law related to the budget of the Agency for Telecommunications in which any shortfalls in the Agency's budget are to be made up from the Republic's overall budget while any financial surpluses the Agency collects are to be transferred to the Republic is not acceptable and should be changed.

Policy accountability must also be considered. Different countries have addressed this issue in different ways. In some countries, the regulator is accountable only to the courts that have the power of judicial review over its decisions. In others, the regulator's actions may also be reviewed by other related regulatory agencies (such as a Commission for Competition, which Montenegro does not currently possess) as well as the courts. Some countries hold the regulator accountable to the Cabinet while others make the regulator directly reportable to the legislature. The important issue is that the regulator must not be entirely independent of review and approval of the manner in which it governs the Sector. A proposed new mechanism for review of the Agency's decisions in the event of appeals is outlined in Recommendation R7 below.

A final key aspect of independence that must be addressed is that of the conditions of eligibility and procedures of appointment of the Director and possibly other key staff of the regulator, depending upon its structure. They, like the Agency itself, should be individuals who combine requisite capabilities and expertise with independence from the companies they regulate and from undue political influence. The challenge of finding such individuals is most acute in small, and especially relatively poor countries such as Montenegro. Its human resources are inevitably limited, and many or even most of them are inevitably likely to be employed in the ECS itself, or to work outside the country in larger markets with more scope for their talents.

There are three basic options for the structure of an ECS regulatory agency:

- a. A single individual;
- b. A multi-member commission; or

²⁴ This source of conflict still exists in several other European countries, including, for example, Slovenia.

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c. A board with an executive director.

Several countries employed the first option – a single individual – in the early stages of implementing liberalization and regulation. Notable among these have been the United Kingdom, Ireland and Hong Kong. The advantage of this option is that the regulatory process tends to be more efficient and the regulatory actions more effective. However, success requires that the individual be extremely well-qualified in terms of professional credentials and understand that constraint is often necessary in order to minimize the possibility of arbitrary action. Extensive grounds for review, usually by the courts, are necessary as a counterweight to a possible abuse of office.

The most commonly employed option is the multi-member commission. The number of commissioners varies, but is generally either three or five. (It is essential that the number be odd in order to minimize the chance of “tie” votes.) This model was pioneered by the United States in the early 20th century and has been adopted by many Member States of the European Union at the direction of the European Commission. Some countries have employed larger commissions, but these countries have tended toward a pattern of choosing commissioners on the basis of the constituencies they represent, rather than on the more desirable basis of professional capability on the part of the individual commissioners. Constituency representation usually results in ineffectual regulation, often characterized by “vote swapping” as the grounds employed for regulatory action, instead of considered evidence and good judgment. Such a situation can also lead to domination of the commission by a few well-organized or well-connected constituencies with resulting poor performance by the agency.

The board with executive director is a model that is more commonly used in other sectors than in ECS, but there is no inherent reason why this should be the case. The United Kingdom, for example, has used this model in press oversight and content regulation, but these boards have been small in membership. This model tends toward the weaknesses of the large multi-member commissions, especially if the board is explicitly made up of representatives of affected constituents, as is often the case.

A common pattern with this model is that the executive officer becomes the *de facto* regulator, particularly where the board members have no staff to support them in the performance of their duties. The highly complex nature of regulatory issues in ECS dictates that whoever controls access to information largely controls the formulation of regulation. This situation reinforces the ability of the executive officer to direct the staff work that supports formulation of proposed regulations and to take or propose regulatory actions that are, in most cases, likely to be adopted by the other board members with little or no real consideration of the merits. This dynamic can result in an imperfectly accountable regulator because the real locus of regulation – the executive officer – is shielded from direct scrutiny and review by the intervening position of the board.

In light of the foregoing considerations and experiences elsewhere, the following Recommendations (R2 to R5) outline the proposed roles, governance structures, and basis

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of financing for the AECF that should be specified in the new Law. More details on the competences of the AECF are given in Appendix 3.

RECOMMENDATION R2 – RESTRUCTURING OF REGULATORY AGENCIES

The Agency for Telecommunications (AT) and the Broadcasting Agency (BA) should be combined into a single agency – the Agency for Electronic Communications and Post (AECF). This merged regulator will be organized in accordance with the amendments to the Laws described earlier, which follow the EU Directives and other European Recommendations, notably the EU Framework Directive 2002/21/EC and the Council of Europe's Recommendation R(2002) 23, which require independence of the key players (Government, regulator and market participants) and a common regulatory framework for transmission networks, regardless of the content of the signals carried over these networks. The AECF will be organized in several specialized departments including in particular:

- (a) Technical and Economic regulation of electronic communications networks and services; and
- (b) Content and Consumer Protection.

Other departments will be established as appropriate along the dimensions of competences by technology (e.g. radio systems), professional expertise (e.g. legal, human resources), and responsibility (e.g. post).

The Ministry of Economy should be the Ministry responsible on behalf of the Government for supervising the AECF, and the ECS expertise available to this Ministry should be strengthened (see Recommendation G3 below). Appendix 2 describes in more detail the competences of this Ministry in the field of electronic communications and its relationship with the AECF. The following Recommendation describes the governance of the AECF and the relationships and division of responsibilities between the Government, Parliament, and the Agency.

RECOMMENDATION R3 – PROCEDURES FOR THE GOVERNANCE AND NOMINATION AND SELECTION OF LEADERSHIP OF THE REGULATORY AGENCY

The governance of the regulatory agency and the procedures for selecting staff for its leadership positions should be changed to reinforce the visible independence of the agency with respect to the electronic communications industry as well as the Government, according to EU Directives. The overall organizational structure of the Agency is shown in Figure 3.1: *Organization Outline of Merged Regulator*. The appointments and dismissal procedures for key staff of the ECS Board and Content and Consumer Council members are presented below. The key points are:

- The final approval and dismissal of members of both Councils is the responsibility of Parliament, under conditions defined by Law;

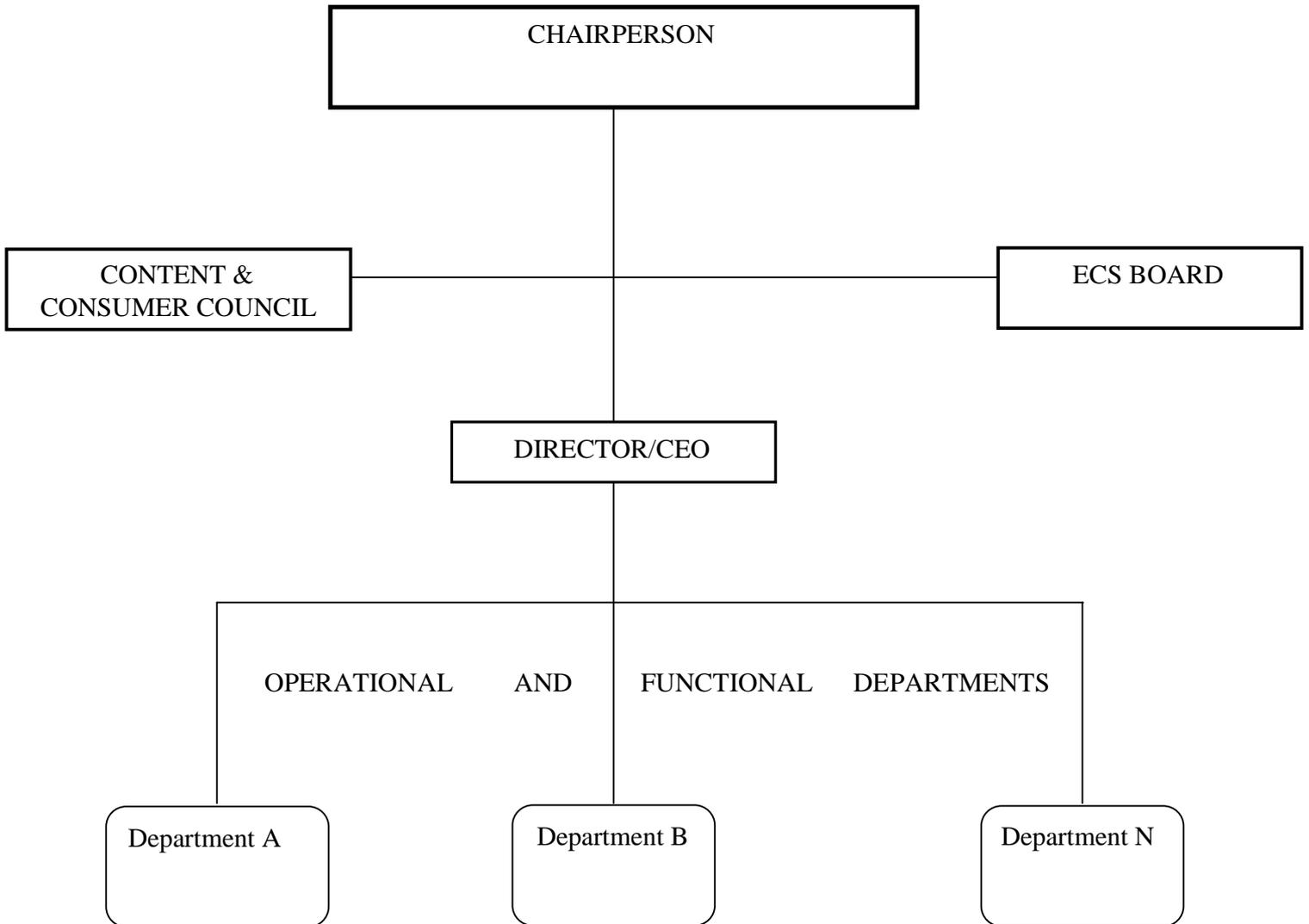
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- Members of the Councils, both of which may have part-time as well as full-time (i.e. executive and non-executive) members, will be proposed by the Government upon the recommendations of Nominating Committees drawn from specified interest groups, which follow a public tender process to seek and select candidates who must meet various prescribed qualifications
- The Chief Councilor of the Content and Consumer Council will also be a member of the ECS Board to ensure coordination between the two arenas of regulation and appropriate consideration of the impact of technical and market network regulations upon issues related to the integrity of media and consumer protection
- The Director or CEO (Chief Executive Officer) of the Agency will be selected jointly by both Councils following a public tender process; a joint decision of both Councils will be required to dismiss the CEO
- The ECS Board will be responsible for the regulation of the Electronic Communications Sector as outlined in the EU Framework Directive, while the Content and Consumer Council will be responsible for issues related to consumer protection and the regulation of television and radio quality and standards, as outlined in the Council of Europe's Recommendation R(2002)23 and the EU's "Television without Frontiers" Directive, including areas such as (a) content regulation (questions of harm and offense, accuracy and impartiality, fairness and privacy); (b) quantitative matters such as quotas for Montenegrin and European program production; and (c) public service broadcasters
- The Regulator will submit financial and other reports to Parliament after their approval by the Government.

It should be noted that the ECS Board will also assume responsibility for the postal sector, and that there will be a separate Postal Division reporting to the CEO.

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FIGURE 3.1: Outline of Organization of Merged Regulator



Recommendations in the context of this organization include:

- ✓ The independence of action and decision making by the Agency should be specified in the amended Law on Telecommunications (renamed Electronic Communications) which will strictly define the responsibilities, relations and scope of coordination between the Agency and State and Government bodies.
- ✓ The members of the ECS and Content and Consumer Councils should meet clearly specified qualifications for eligible candidates in terms of their types of expertise and lengths of experience, including technical, legal, economic, business

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and media backgrounds. It is important to avoid conflicts of interest such as those identified in the ARD, Inc. report of May, 2004²⁵ (see chapters 1.2 and 1.3.2) concerning the position of a representative of a group of broadcasters (the Union of Electronic Media or UNEM) as a member of the Broadcasting Council which sets policies affecting UNEM's members. The Nominating Committees themselves should comprise members selected by authorized nominators including the Government of Montenegro (only for the ECS Board but not for the Content and Consumer Council nominations), the University of Montenegro, Non-governmental organizations representing business interests, Non-governmental organizations in the media sphere, and Non-governmental organizations and citizens' associations involved in the protection of consumer interests, human rights and freedoms.

- ✓ Each Council will select a Chairperson from among their members and the Chairperson of the Content and Consumer Council or a deputy will automatically be a member of the ECS Council.
- ✓ Both Councils acting together will select a Chairperson of the Agency from among their members (who need not be the Chairperson of either Council), whose responsibilities will include chairing sessions where decisions related to the responsibilities of both Councils are discussed, and, as required, representing the Agency in relations with Government, Parliament and other national and international bodies. If the Chairperson of the Agency is also Chairperson of the Content and Consumer Council (and thus de jure a member of the ECS Council), then he or she will nominate a deputy to occupy their position in the ECS Council.
- ✓ The conditions of eligibility for both the Director and Deputy Director (if this position is established) and members of the ECS and Content and Consumer Councils should include provisions that prohibit them during a specified period (such as 12 months) after leaving these positions from acquiring a stake in, or establishing with any business whose rights and interests are subject to the decisions of the Agency:
 - a) Any employment or other legal relationship for the performance of work;
 - b) Any regular commercial contact when acting as a member of the management of another business undertaking.

In addition members of the Management and Supervisory Boards of businesses who are subject to regulation by the Agency should be ineligible to take up these positions at the Agency during a similar period of time after leaving these businesses.

²⁵ "Montenegro Media Assessment and Evaluation of USAID Media Interventions", ARD Inc., Burlington, VT. USA, report submitted to USAID Montenegro, under Contract AEP-I-00-99-00041-00

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- ✓ The Agency should be established as a non-profit entity, with a budget that is independent from the budget of the Republic
 - Any budget surpluses should be credited to the next year's market supervision fee (see Recommendation R5 below), while any deficits should be its responsibility to cover. Recommendation R5 below defines the market supervision fee, a revenue raising mechanism related to the electronic communications sector to help ensure this independence (broadcast content regulation is separately financed via the broadcast subscription fee).

It should be noted that questions of frequency planning, decisions about the allocation of specific frequencies for broadcasting use (which involves decisions on the national frequency plan which is ultimately the responsibility of the Government), and the assignment of frequencies to broadcasters are areas which require effective and efficient cooperation between staff responsible for the distinctive areas of ECS and program content regulation. Most EU members have in fact decided to have a single regulatory authority responsible for all types of frequencies for civil purposes²⁶. This common approach to frequency management is found independently of whether countries have implemented a converged or combined regulator for both transport and content. The relative priorities of telecommunications, broadcasting, and other uses of frequencies are normally decided at a high political level through the adoption of the national frequency plan.

Within the new AECF it should be the responsibility of the broadcast or program content regulator to issue licenses to broadcasters. However, in order to establish a single regulatory framework for *all* transmission networks and services (as set forth in EU Framework Directive 2002/21/EC) the ECS regulator or Department should take charge of preparing the national frequency plan (allocation of frequencies), which has to be submitted to and approved by the Government which carries ultimate responsibility for this plan. The ECS regulator should also be responsible for all frequency assignments to spectrum users (with the probable exception of frequencies for military use), but must coordinate with the program content regulator or Department with regard to proposing frequency allocations for broadcasting use and making frequency assignments to broadcasters. The ECS regulator should also set the standards for and monitor radio frequency emissions – from broadcast as well as other transmitters – to ensure compliance with non-interference and safety requirements.

RECOMMENDATION R4 – COOPERATION OF REGULATORY AGENCY WITH OTHER BODIES

In anticipation of changes that may occur in the status and responsibilities of the Republic, and in its own legislation and structures, the Law should include requirements for the Agency to cooperate with existing and future entities that may become responsible

²⁶ “Report 1- Country Comparative Report – Supply of Services in Monitoring of South East Europe – telecommunications services sector”, Cullen International, August, 2005

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for Competition, Consumer Protection, and the Management of Non-Civilian radio frequencies.

RECOMMENDATION R5 – FINANCING THE AGENCY

Electronic communications service providers should pay a market supervision fee to the Agency to cover the costs incurred in relation to its activities. The maximum amount of the fee should be stipulated in the Law, expressed as a percentage of the revenues generated by the service provider in the preceding year, with an exemption for service providers whose revenues do not exceed a stipulated threshold. The actual percentage charged in any one year should be proposed by the Agency, subject to the limit prescribed in the Law and to the approval of the Minister of Economy. Other sources of revenue for the Agency may be derived from fees for the licensing or authorization of service providers and other administrative procedures, as well as a proportion of the fees charged (the remainder going to the State budget) for the use of limited resources such as frequencies and numbers. The Agency may also be the beneficiary of donations, loans, and other forms of technical and financial assistance according to the Law.

In addition to fees generated from the ECS industry, the Agency will also receive funding from broadcast subscription fees and from the postal sector. No commingling of fees from these different sources of funding should be permitted between the regulation of post, media/content broadcasting, and EC networks and services, e.g. fees collected from the ECS industry should not be applied to broadcasters or broadcast content regulation, and vice versa.

3.1.4 The Powers of the Agency

Background and Justification

The timing and effectiveness and credibility of the implementation of the policies and principles behind the development of the ECS, as embodied in legislation for the Sector, are subject to the practical ability of the Agency to perform its functions and enforce its decisions within a reasonable period of time. A number of additions and amendments to the current Law on Telecommunications are desirable to enable the Agency to initiate actions sooner rather than later, to give it greater powers of enforcement, and to reduce the risk that the implementation of its decisions, that should nevertheless be subject to review and even possible reversal, can be unreasonably delayed.

The use of the Significant Market Power (SMP) designation to define the actions which the Agency may undertake as envisaged in the EU Framework Directive is not without its problems, given the complexity and hence resource requirements of the market analyses that are involved. Furthermore the definition of relevant markets is in a state of flux within the EU at both the Commission and the national levels. Changes are expected in the Commission's position with respect to some relevant markets (of which 18 were defined in the 2003 package including a new emphasis on mobile markets) and there are

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wide divergences in the application of these competition law-based regulations between the various member states. However although given this situation it would be unwise for Montenegro to reach definitive conclusions of its own on an extensive basis, there are a few areas where the power of intervention by the Agency to regulate anti-competitive behavior should already be specified to accompany continued tariff rebalancing, as two complementary facets of the necessary conditions for effective and fair competition. It should be noted for example that without retail price rebalancing it is perfectly possible for some cost-oriented wholesale prices, e.g. for unbundled access, to exceed retail prices.

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RECOMMENDATION R6 – DESIGNATION OF OPERATORS WITH SIGNIFICANT MARKET POWER (SMP)

The new Electronic Communications law should designate the following operators as having SMP in specific market segments, until such time as the Agency for Electronic Communications and Post rules that these designations no longer apply, except that these SMP designations will automatically lapse three years after they come into force unless the Agency produces market analyses that justify their continuation:

- Telekom CG (fixed network): SMP in:
 - Fixed public telephony services and markets; and
 - Leased lines;
i.e. essentially M1-M14 as defined in Appendix 8.
- Monet (owned by Telekom CG) and ProMonte: SMP in:
 - Voice call termination on their respective individual mobile networks (M16)
 - Access and call origination on their individual mobile networks.

These designations establish the triggers for the Agency to define through sub-regulations obligations on the SMP operators, such as cost-oriented pricing and an offer of unbundled local loops, and to specify the accounting methods and appropriate accounting separation procedures that these operators are to use, and the schedules for the introduction of these procedures. The Agency should also be empowered to introduce other remedies such as but not limited to number portability (fixed and/or mobile) and carrier selection and pre-selection (CS and CPS respectively) if it is determined that the costs of these remedies are not unreasonable considering the benefits they may generate through enabling greater competition and consumer choice in the relevant markets. It is worth noting that at the end of 2004 26 operators in 18 EU members (among them Estonia, Slovenia, Slovakia, Hungary, and the Czech Republic) had been designated as SMP on their national mobile market (SMP-mobile). In the EU 15 countries (excluding the 10 countries that became members in 2004) SMP-mobile operators now account for over 60% of mobile customers.

Other operators than the ones mentioned above may be designated by the AECPC as having SMP, if justified by the outcomes of future assessments by the Agency of these operators' positions in defined market segments. Such SMP designations should also be reviewed at reasonable intervals to see whether they should be lifted or continued.

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RECOMMENDATION R7 – APPEAL AND DISPUTE RESOLUTION

The amended Law should include new procedures for handling appeals against decisions of the Agency. Reliance only upon the courts as is now the case has several disadvantages which are particularly consequential for the ECS: the lack of expertise of the courts, the costs involved, and the length of time for conclusion of the appeals process. Whatever process is adopted, the principle should be maintained that the decision of the Agency remains in force and its implementation is not suspended by the filing of an appeal. Otherwise, e.g., an incumbent can too easily delay the implementation of a regulatory decision in favor of an entrant, whose business plan may well be put in jeopardy by further delays (a situation that is intrinsically biased in favor of an incumbent).

The proposed Appeals Body of the first instance should be independent of the Agency as well as of the Government and the ECS, just as the Agency itself is independent. The possibility of a further appeal to a court against a decision of the Appeals body must be retained. However, in order to reduce the occurrence of frivolous or purely obstructive appeals, the court should have the power to penalize the party which files the appeal, if it determines that the appeal has no merit. The Law should oblige the Court, as a body of last instance, to rule on such appeals as a matter of urgency within a prescribed period of time.

RECOMMENDATION R8 – PUNITIVE PROVISIONS

In amending the Telecommunications Law the penalties imposed for violations of regulatory obligations should be reviewed and if necessary revised, within limits for penalties prescribed by the penal code, to ensure that they are commensurate with both the offense and the scale that will have a proportionate, i.e. deterrent, effect upon the offender. For example, the fines for such offenses as failing to provide requested interconnections as required should be linked to the overall communications services revenues of the offender, rather than expressed in terms of a fixed range of monetary penalties, with maximum prescribed limits. The amounts of financial penalties should also reflect the severity of the offense and the past behavior of the offender (e.g. whether the offense is a first time event or a repeat of previous or even frequent behavior).

3.1.5 New Approach to Licensing Operators and Service Providers

Background and Justification

Both the EU Directives and the realities of criteria employed by potential investors emphasize that if competition is to be enabled in the Montenegrin market for electronic communications it is vital to minimize economic and administrative barriers to entry that significantly increase the productive investments directly required to offer service and are not connected with the use of scarce resources. At the same time potential investors should be able to proceed through clear and transparent procedures that are as simple and

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rapid as possible in obtaining permission (or being rejected) to offer the services they wish to provide on the basis of their own judgments about profitable business opportunities. The current licensing regime in Montenegro does not satisfy these conditions and should be changed, as outlined in Recommendations R9-R11.

RECOMMENDATION R9 – INTRODUCTION OF AN AUTHORIZATION OR NOTIFICATION REGIME FOR PROVIDING PUBLIC ELECTRONIC COMMUNICATIONS NETWORKS AND SERVICES

The licensing regime prescribed in the current Telecommunications Law (Section III) should be replaced by an Authorization or Notification regime for public electronic communications networks and services. The fees paid by electronic communications services providers for this process should be limited to the administrative costs incurred by the Agency. An authorization to provide electronic communications networks or services does not of course exempt a provider from having to seek separate authorization as appropriate to obtain other facilities, such as rights of use of the radio frequency spectrum and telephone numbers.

RECOMMENDATION R10 – SUPERVISION AND INTRODUCTION OF CABLE DISTRIBUTION NETWORKS

The AECP has the responsibility for defining conditions and issuing licenses or authorization for the development and operation of cable distribution networks that can be used for the transmission of video and audio programs and for the provision of electronic communications services (notably broadband access. This activity requires cooperation with municipal authorities on whose territories these networks are to be installed. License conditions should specify critical parameters such as coverage areas and roll-out obligations for individual cable licenses, criteria and procedures for the evaluation of competing bids, capacities to be provided, and scope of services to be allowed, as well as the rights of cable operators in matters such as interconnection to other networks and access to rights-of-way. There is no reason at this time, given the size of individual cable TV markets in Montenegro, to award more than one cable TV license in a concession area, in order to attract investors. The conditions under which licenses can be removed if cable operators fail to meet obligations concerning roll out, for example, must be specified, and prices for video services justified.

Other technical and economic conditions such as fees and “must carry” obligations for cable networks should be established by the specialized department for electronic communications networks and services within the Agency, in consultation with the department for Content and Consumer Protection (see Recommendation R1 – Restructuring of Regulatory Agencies). At the same time rules for the taxes and fees that municipal governments may charge cable operators within their territories should be specified, ensuring that these powers are consistent with the Law on Municipal Finance (if necessary as amended for this purpose). It should be noted that these rules should apply to the taxes and fees that municipal authorities may charge any category of electronic communications network operator and service provider.

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Telekom Montenegro would have little incentive at the overall corporate level (or even at the holding company level if a requirement for a separate legal entity for cable TV were imposed as specified in Article 8 of the EU Competition Directive 2002/77/EC) to invest in cable modem services that compete directly with ADSL, especially since it has recently launched its ADSL offering. Hence very careful consideration should be given as to whether and if so under what conditions Telekom should be allowed to enter the cable TV business at this time, other than as a supplier of wholesale bandwidth to cable TV operators. This concern would be especially acute if Telekom were to develop a cable TV business on a large enough scale to exclude significant investment from other sources which, unlike Telekom itself, have already amassed considerable experience in delivering cable TV services to customers. While the principles of open competition would argue that Telekom should not be excluded from cable TV, it should only be awarded cable licenses if (a) the condition of a separate legal entity is imposed, in accordance with the obligation on dominant providers of public telephone services which as noted is specified in the EU Competition Directive, and (b) its business plans demonstrate a substantial commitment among others to rolling out cable modem services, with significant penalties for failing to meet these rollout targets. The latter condition (commitment to enter the broadband access market as one element in business plans) should be included as one of the criteria by which all competitive bids for cable licenses are evaluated.

RECOMMENDATION R11 – ENTRY OF PRIVATE NETWORKS INTO THE PROVISION OF PUBLIC ELECTRONIC COMMUNICATIONS SERVICES

Private network operators whose main activity is in an area other than the provision of electronic communications networks or services, and which possess such networks or services for their own use, should be obliged to comply with the notification requirement (see Recommendation R9) if they are to use them for providing public communications services..

Such private network operators should also be obliged either to establish a separate legal entity for the operation of these services or to implement separate cost accounting for these activities.

3.1.6 Universal Service Program

Background and Justification

A Universal Service (US) Program, or obligation for the Electronic Communications Sector, represents a social not an economic goal, although there are economic benefits that it can generate thanks to the “network effect²⁷”. However, a US can impose a

²⁷ The total value of a network increases more rapidly than linearly with the number of people connected to it; even if some users cannot afford to cover the costs of their own connections by themselves, the benefits accruing to all users because these non-solvent users can be reached over the network (for personal, social,

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significant burden on the Electronic Communications Sector if, as is usually the case, the Sector itself and its customers have to pay for its costs. If not carefully planned and implemented the costs of a US can lead to a distortion of competition and investment patterns. Also the content of a US should be expected to change over time in line with economic and technological developments. Yesterday's luxury becomes tomorrow's necessity. So a US program should allow for amendment over time and should contain safeguards to minimize its costs and ensure that they remain reasonable.

The decision to implement a US program should be made on the basis of Montenegro's own social goals, and any such program should be tailored to its particular circumstances, as outlined in the following Recommendation.

RECOMMENDATION R12 – UNIVERSAL SERVICE PROGRAM

A Universal Service program should be formally established, but subject to conditions that reflect Montenegro's specific needs and circumstances and clearly limit the costs of such a program that cannot be covered by typical profit-making commercial operations.

An initial set of Universal Services should be defined with provisions for review and possible (but not required) modification, on the basis of recommendations by the Agency, subject to approval by the Minister of Economy, every few (a specified number) years. This set of services should contain several elements, not all of which need necessarily be supplied by one US provider, and which may be provided by different providers in different geographies. A possible set of US is presented here:

- (a) Connection of the end user to the public telephone network at his/her request by access to publicly available telephone services at a fixed geographic location with a defined Quality of Service (QoS);
- (b) Access to directory and directory inquiry information;
- (c) Availability of public pay telephones from which it is possible without any means of payment to make emergency calls to meet all reasonable needs in terms of geographic coverage and a sufficient number of public pay telephones, including their accessibility for disabled users;
- (d) Measures for disabled end users that give them equivalent access to and use of publicly available telephone services, including access to numbers of emergency services and directory information;
- (e) Availability of Internet access at a minimum acceptable speed (subject to modification over time by the Agency in light of technology – this might refer today to the typical capabilities of modern dial-up modems (which at a maximum of over 50kbps are greater than the rates that can be achieved with GSM wireless systems, except where EDGE

administrative and business reasons) may compensate for, or even outweigh, the cost of subsidized connections.

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(Enhanced Data Rates for Global Evolution) technology is introduced²⁸) expressed in terms of numbers and density (e.g. numbers per municipality by size) of public access points, such as at Internet centers that may be located on private (cafes, bank lobbies etc.) and/or public (municipal buildings, post offices, libraries etc.) premises;

(f) Availability of Internet access at schools (with a minimum access connection to the building or premise (again subject to modification over time; 2Mbps might be an initial specification)) with specified goals for coverage requirements by level of school over time.

These last two elements of a US introduce requirements that go beyond traditional specifications, because they clearly imply the acquisition of terminals that are more expensive than basic telephones and may range up in capability to PCs (personal computers). Nevertheless, they are relevant to achieving two goals, namely:

- ✓ Enabling as many citizens as possible to interact electronically with each other and with commercial and government bodies;
- ✓ Stimulating the growth of familiarity and skills with computers throughout the population to help equip the residents of Montenegro with the capabilities they need to lead fully productive and engaged lives in the 21st century, just as basic literacy and reading and writing became essential skills in the past.

The Agency should select one or more US providers through a public tender process. Bidders should be allowed to present offers that include as many or as few of the designated US geographic areas and distinct service elements as they choose. This tender process should be technology-neutral, and allow and indeed favor bidders who are creative in terms both of the technology solutions they offer and the pricing and service packages they propose. For example there are distributors of wireless handsets which among other specialties offer refurbished handsets at attractive prices (e.g. 10-15 euros) that meet the challenge of finding inexpensive telephone terminals. Furthermore major mobile terminal vendors are actively developing inexpensive handsets, that should be available within the next few years, that will be affordable for the “next 1,000 million” potential mobile communications users in the most populous developing countries who have very low disposable incomes. Ideally bidders will look to a wide range of alternative equipment suppliers from around the world to ensure that the most cost-effective solutions are offered to meet the requirements of a US in Montenegro.

The Agency should create a financing mechanism to compensate US operators for legitimate costs they incur that exceed the revenues they can obtain from customers of affordable US. The Agency should determine the amounts to be paid by operators and services providers into a Universal Service Fund, which should not exceed a specified maximum percentage of the total revenues of an operator or services provider derived from public electronic communications networks and services, i.e. excluding any revenues that may be derived from activities outside the Electronic Communications

²⁸ ProMonte introduced EDGE in some localities in April, 2005 and Monet followed soon after

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Sector. Companies whose revenues fall below a specified minimum may be exempted from making these payments.

It should be recognized that the imposition of additional charges such as a US payment on public electronic communications network and services providers is not an ideal solution, since the objective of a US is a social one that is not limited in its impact to the electronic communications sector alone. In an ideal context US would be paid for on the same basis as other social services, i.e. with money from general public funds paid directly to users rather than to suppliers, an approach that is not practical in light of Montenegro's financial circumstances, and indeed has not been acceptable in almost all other countries. The idea of subsidizing Universal Service through payments directly to lower income users rather than to service providers is gaining increasing attention in thinking about approaches to regulation, since it is less likely to distort the behavior of competitors. However, unless there is an established welfare system that already provides assistance to identified low income customers for other purposes, the administrative burden associated with determining and validating individuals' and households' eligibility for payments to provide Universal Service may make this approach impractical. In any case it is important to ensure that any US amount paid by electronic communications network owners and services providers operating in Montenegro is not excessive and that the administrative overhead is minimal. The Agency should be charged with ensuring that this condition is met, and with modifying the scope and conditions of implementation of US if it turns out that the legitimate costs of US become excessive. Since the set of US will have been defined with several components, by geography and service, there will exist the possibility of delaying the introduction of some US elements if it is found that the costs for implementing all of them more or less simultaneously are unreasonable. For the reason mentioned above, the possibility of shifting to direct payments to low income users for US should be kept in mind for the longer term.

An alternative or complementary approach, if US costs are found to be excessive, would be to find additional funding for US from outside the Montenegrin electronic communications sector itself, such as from aid or reconstruction agencies. It is likely that this approach could be applied especially to the suggested US elements (e) and (f)²⁹ above (Internet access) where there are opportunities for funding aimed at the IT (information Technology) Sector and for exploiting relatively inexpensive sources of equipment such as from donations or sales of used, last generation PCs that nevertheless offer significant communications and processing capabilities. Used but still very capable PCs have been and are being replaced by the millions every year in countries in regions such as Western Europe and North America, and can be acquired for prices on the order of 100 euros/PC (if not donated). Specific initiatives aimed at improving the electronic communications infrastructure available within particular sectors of society or the economy should be coordinated with the Ministry or government department responsible for that sector, e.g. provision of PCs for students in Montenegro (of which there are some 120,000 from elementary up to but not including university level) should involve the

²⁹ See later Chapter 3.5 for further discussion

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Ministry of Education and Science.³⁰

On an optimistic note, there are grounds for expecting that US costs in Montenegro, given the current penetration level of traditional telephone (fixed and mobile) services and the relatively modern condition of its fixed and mobile networks, need not be unreasonable. This observation is subject to the provision that the US process allows scope for creative and innovative ways to satisfy a US objective, through competitive auctions and the entrepreneurial exploitation of opportunities, such as may be afforded by the shared use of mobile network infrastructure in rural areas, and the availability of inexpensive terminal equipment. It should be noted that there are several examples in developing countries of mobile operators which have been able to offer telephone service profitably to customers with significantly lower incomes than those found in Montenegro. One criterion in the selection of US operators should give preference to solutions that offer the easiest possibility of upgrading to broadband, i.e. allowing expansion or smooth upgrading of US services.

The Universal Service Fund (USF) should be administered by the Agency or by a body created for this purpose by the Agency.

The Agency should formulate byelaws or sub-regulations covering aspects such as the tender procedures for the provision of Universal Service, the prices and quality of service, and the procedures for determining the legitimate cost basis of Universal Service provision, and hence the amounts from the USF to be disbursed to Universal Service provider(s).

3.1.7 Gaps to Fill

Background and Justification

The current Law on Telecommunications does not address a number of issues which are either specific to Montenegro or involve topics that should be covered in such Laws, as they are in comparable Laws recently enacted in other countries. In particular it omits any consideration of procedures to follow in the case of war or the declared emergency conditions, does not address fully issues raised by the position of Montenegro as the much smaller member of the State Union of Serbia and Montenegro, and gives no consideration to the emerging and increasingly visible development of digital broadcasting services. This last issue is however addressed in the Broadcasting Development Strategy produced by the Broadcasting Agency Council in 2004.

Many European countries are planning to make the transition from analog to digital broadcasting between 2010 and 2012. The benefits of this migration have been widely

³⁰ A presentation given in Brussels on April 16th, 2003 by this Ministry (Donor Information Meeting on Education Reform in Montenegro), cited a goal of achieving a ratio of 1 computer for every 5 students after 10 years in 20 selected primary and 10 selected secondary schools. Much more ambitious goals should be established.

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accepted, including higher spectrum efficiency and the freeing of scarce spectrum for other uses as well as raising the technical quality of broadcasts. However this transition raises a number of public policy questions.³¹ Some of these questions concern content (e.g. how much programming that has been made available over analog FTA (free-to-air) broadcasts should also be made universally available in digital format to viewers who may not be able to afford to acquire new digital TV receivers) that fall outside the scope of this Strategy, while others involve choices of network or transport technology that are part of the ECS. These issues will be evaluated in the development of a strategy for the transition to digital broadcasting in Montenegro and the accompanying shut down of analog broadcasts.

Table 3.1 presents an overview of the comparison between alternative platforms for the delivery of digital audio/video content.

Table 3.1: Comparison of Broadcast Platforms (*source: adapted from Analysys report³¹*)

Key: 1= worst; 5=best

| Capability | Analog Terrestrial | Digital terrestrial (DTT) | Satellite (DTH) | Digital Cable | IP TV |
|-----------------------------------|--------------------|---------------------------|-----------------|---------------|----------|
| Widespread Coverage | 3 | 3 | 5 | 2 | 3 |
| Capacity | 1 | 2 | 4 | 5 | 3* |
| Local Content | 4 | 4 | 1 | 4 | 3 |
| Interactivity/ICT Development | 1 | 2 | 2 | 4 | 5 |
| Terminal costs | 5 | 4 | 2 | 3 | 3 |
| Robustness (against full failure) | 4 | 4 | 2 | 4 | 4 |
| Transmission means | Wireless | Wireless | Wireless | Wireline | Wireline |

*As technology improves the capacity of broadband wireline networks is continuing to increase significantly; however the non-broadcast nature of IP (Internet Protocol) TV implies that at least for the next few years its capacity will be limited compared to multi-channel digital cable.

Given the small size (population and area) and very mountainous terrain of Montenegro, satellite or Direct-to-Home transmission, which in larger countries may complement DTT, is not likely to be economically effective (or operationally practical if there are shadow zones of reception) to ensure universal coverage. Poor and/or rural areas are also

³¹ "Public policy Treatment of Digital Terrestrial Television (DTT) in Communications Markets," Final report to the European Commission, Analysys, August, 2005

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least likely to be economically attractive for wireline-based systems. Hence if the goal is to ensure universal coverage of a minimum set of broadcast programs it is likely that public funding of DTT will be necessary, to the extent that such support of a specific technology is permissible under EU law to achieve “clearly defined public interest objectives”. In addition it may also be necessary to subsidize the acquisition of digital-to-analog converters for viewers who cannot afford to replace their existing analog TV receivers with digital sets, and to compensate broadcasters for the costs of simultaneously broadcasting both analog and digital signals during a transition period.

RECOMMENDATION R13 – DIGITAL TELEVISION AND RADIO

The Electronic Communications Law should address the implications of and regulatory issues posed by the emerging development (and availability in a growing number of countries) of digital television and radio services, including high definition, wide screen TV programs. Specifically (see Appendix 1 for definitions and Appendix 7 for information on the implications of the EU Framework Directive for the broadcasting arena):

- 1) Public communications networks intended for the distribution of digital television services should be required to be appropriate for the distribution of wide-screen or high definition television services;
- 2) Operators that offer conditional access services, which provide access to digital television and radio services, should be obliged to offer to all broadcasters, under fair, reasonable and non-discriminatory conditions, technical assistance that enables their subscribers to access their services by means of decoders;
- 3) Operators of public communications networks, at the request of the Agency, should be obliged to ensure access to application program interfaces or electronic guides under fair, reasonable and non-discriminatory conditions; and
- 4) The Agency should by sub-regulation prescribe the conditions for operation of digital television equipment used by consumers.

In addition, the Agency should build on the work already accomplished and carry further the recommendations presented in the Broadcasting Development Strategy referred to above, including (these points are taken from the Broadcasting Development Strategy produced by the Broadcasting Agency Council in 2004):

- Development of a strategy for the transition to digital broadcasting in Montenegro, focusing on licensing, efficient use of frequencies, consumers’ choice, and competition of broadcasters;
- Development of an indicative timeline for the transition from analog to digital broadcasting, taking account of the penetration of digital terrestrial broadcasting in Europe and elsewhere, the costs of equipment, and the socio-economic environment in the Republic as well as other relevant factors.

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- Preparation of public discussion material and participation in the formulation of the strategy for the transition from analog to digital broadcasting in Montenegro and the accompanying shut down of analog broadcasts. This strategy, which will necessarily involve the Government and other public and private institutions, will define the responsibilities of the Agency and of the Government itself in this process.

RECOMMENDATION R14 – ELECTRONIC COMMUNICATIONS IN A TIME OF WAR OR EMERGENCY

Conditions for the provision of electronic communications services in a time of war or emergency should be included in, i.e. added to, the Electronic Communications Law. These conditions should include obligations on: (a) operators which provide public electronic communication services; and (b) the Government for reimbursement of eligible and justified costs that these operators may incur in fulfilling these obligations. For example, operators providing access to the public telecommunications network and the use of publicly available telecommunications services should adopt and submit to the Agency a plan for measures to ensure the integrity of the public telecommunications network and access to public telecommunications services in the event of a breakdown of the network, war or declared state of emergency, or natural disasters.

RECOMMENDATION R15 – IMPLICATIONS OF MONTENEGRO'S INDEPENDENCE

The referendum in Montenegro on the future of the State Union with Serbia which took place on May 21st. 2006 resulted in a decision in favor of Montenegro's independence, i.e. the dissolution of the Union. Addenda to the Law will have to be developed to take account of this change, which occurred after the work for this project was completed. For example, since Serbia is the successor state it will inherit the Union's seat at the United Nations and other international institutions. Montenegro will have to apply for membership of the International Telecommunication Union (ITU) as an independent State, as well as for membership of other international and regional organizations such as EUTELSAT. Montenegro will also likely pursue membership of the European Union independently from Serbia, which may have implications for the speed at which it is possible and desirable to ensure conformity with EU Directives on Electronic Communications.

More broadly, Montenegro's independence introduces additional responsibilities and obligations which will have to be met by resources from the Government or MoE and the regulator, or some combination of the two, aided by external expertise where possible. These added responsibilities heighten the importance of consolidating and coordinating the ECS resources and expertise available within the Government (see following Recommendations G1, G3 and G4 in Chapter 3.3), and of making use of ad hoc Task Forces, including foreign experts, to address specific issues as they arise, such as those associated with the transition to full independence (see Chapter 3.2, Recommendation A1 as well as Recommendation G3).

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Among some specific questions to be addressed are most likely the introduction of a separate country code for Montenegro (to replace the 381 code it now shares with Serbia) and changes to the national numbering plan, as well as the allocation of a new country-code top level domain (ccTLD) other than .yu (of the 26 possible two letter combinations beginning with m only 5 have not yet been assigned (mb, me, mf, mi, and mj)). The assignment of a new ccTLD will require that Montenegro be recognized as a country by the International Organization for Standardization (ISO), as will be the case once it becomes a member of the United Nations. Related to these two questions are respectively the costs that will be incurred by telephone operators to implement numbering changes, and the need to decide who will be the authority for administering Internet domain names in Montenegro, which might be for example (this is neither an exhaustive list nor a recommendation) the current administrator of the .yu domain (YUNET Association - Telecommunications Society, Belgrade), a private organization or University in Montenegro or elsewhere, or the regulator (AECF) or a separately constituted Domain Name Authority. Whatever the arrangement that is adopted for the administration of domain names, it should satisfy the goals of being both effective and of providing market-oriented services.

Another issue that will have to be revisited in light of Montenegro's independence is that of spectrum management, including but not limited to the impact of decisions that may be taken with respect to frequencies that are currently assigned to the State Union's armed forces, and other frequencies operated by State Union assets, as these assets are divided.

3.1.8 Transitional Provisions

Background and Justification

There are a number of important transitions that will be involved in the implementation of a new Electronic Communications Law, including some that are related directly to the conditions of the existing Law on Telecommunications, as well as some short term implications of the Privatization agreement for the acquisition of Telekom CG. At the same time the Law should be flexible in some areas so as to minimize the likelihood that it will require amendment within a relatively short time.

RECOMMENDATION R16 – TRANSITIONAL PROVISIONS

The Law should take into account the conditions of the Privatization agreement for the acquisition of Telekom CG by Magyar Telecom (Matav), as they affect the timing with which changes in factors such as the prices of services offered by SMP operators and the fees charged by the Agency can or may be implemented.

The Law should also specify the:

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- (a) Procedures for transition of the current AT and BA from their existing situations, characterized by diverse systems of governance, structures, and procedures for the appointment of leadership, to a common framework, as well as
- (b) Coordinated implementation of changes in the Broadcasting Law with those incorporated in the Electronic Communications Law.

The Law should also recognize the possibility, indeed the high likelihood, of future changes, and allow as far as possible for smooth adaptation (without the need for amendments to the Law) to developments such as the creation of a Competition Commission or Authority within Montenegro (see Recommendation R4 above) or a change in the relationship between Montenegro and Serbia (see Recommendation R15 above).

3.2 RECOMMENDATIONS FOR THE AGENCY FOR ELECTRONIC COMMUNICATIONS AND POST

Background and Justification

The most basic objectives of the Agency are to enable:

- A. Offerings of electronic communications networks and services to residential, business, and other users in Montenegro that are economically and functionally attractive, and support their various individual and common economic, social, and personal goals;
- B. A healthy Electronic Communications Sector that enables efficient and effective suppliers to earn a reasonable return on their investments and encourages them to introduce new and/or improved services as technology and customer expectations evolve.

The demands on the Agency in terms of both the quantity and scope of the expertise and experience it will require will increase over the next few years, even though an ultimate goal should be to build a regime of “light” regulation, in which the principal force for achieving the first of the two objectives outlined above should be the impact of competitive market forces. The period of transition from a monopoly to a competitive environment poses the greatest challenges to a regulator to achieve an effective balance between the legitimate expectations of the incumbent, which inherits the legacy of past investments and practices that are in many respects ill-suited to a competitive environment, and the needs of entrants whose ability to compete from a base of zero customers can be unreasonably and unfairly inhibited by the actions – and in many cases inactions or failures to act - of the incumbent. The foreseeable situation in Montenegro will in some respects be especially demanding, as a result of the coincidence of a number of local and global factors, namely:

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- Local factors:
 - The recent acquisition of the incumbent Telekom CG by the very large Deutsche Telekom Group (via the Hungarian incumbent Magyar Telekom (Matav)); this acquisition brings both opportunities, e.g. the injection of a source of experienced multinational expertise and experience into the Sector in Montenegro, and concerns, notably about the ratio of Telekom's resources to the inevitably limited resources of the Agency and hence the latter's ability to supervise effectively, as is its responsibility, the activities of a member of a very large multinational enterprise;
 - The asymmetry inherent in the presence of competition in the mobile market, while a de facto monopoly persists in the fixed market, at a time when the phenomenon of fixed-to-mobile substitution is becoming more pronounced;
 - The dominant market position of Telekom's ISP (Internet CG).
- Global factors: The coincidental (with the effort to introduce more competition into the Montenegrin market) fundamental worldwide transformation of the electronic communications sector as a consequence of the move toward multipurpose packet switched networks, so that several of the bases of current regulatory practice, including some of those enshrined in EU Directives on Electronic Communications, will become increasingly obsolete and impractical, e.g. cost accounting separation rules by service, although these rules should nevertheless be implemented in the near future to put the pricing of services offered by SMP operators on a fair and transparent foundation.

Conditions that form part of the Privatization Agreement for Telekom CG do not permit changes in its telephone tariffs and Reference Interconnection offer, as agreed in late 2004, before 2007 and 2006 respectively. The Agency should move very actively to lay the groundwork for changes as soon as these become possible, which will be within a relatively short period of time.

In order to achieve the first objective A outlined above, the Agency should focus on:

1. Ensuring that the overall price level of electronic communications services reflects continuing improvements in the performance/price of network capabilities and the conditions of effectively competitive markets, and eliminating the implicit subsidy inherent in the higher prices paid by business as compared to residential customers – a start was made in the direction of equalizing business and residential telephone tariffs with the first steps towards tariff rebalancing (i.e. lowering long distance charges and raising local charges) for fixed services, which was initiated at the beginning of 2005 with the goal of equalizing the two classes of tariff by 2007; the benchmarks for future price levels should not be limited to the prices charged in

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neighboring countries but should consider a wider range of comparisons involving the most competitive European markets and even North America;

- a. It would also make sense to change the current multi-zone international tariff structure and require Montenegrin operators to reflect the wide variations in the termination charges for international calls to different countries, to reduce the prices paid by users in Montenegro to communicate with those countries where the effects of substantial price reductions resulting from competition have already been felt (which includes many of the members of the EU as well as countries such as the U.S., Canada, and Japan);
 - b. However, some consumers, typically low income families, may experience increases in their total communications bill as a result of tariff rebalancing. It is therefore recommended that operators be encouraged to offer special low income tariff packages to such users, who do not otherwise fall under a US program. These tariff options typically have monthly rental prices below normal tariffs. The packages also typically include a limited number of free or inexpensive call units. Once this quota has been exhausted, the user has to pay tariffs that are significantly more expensive than the normal tariff. This tariff option is thus unattractive for normal consumers, but may meet the basic communications needs of a low income family
2. Stimulating the growth and availability of new services, such as broadband access, through initiatives in this particular example to ensure that reasonable wholesale broadband services and facilities (e.g. unbundled local loop and co-location arrangements) offers are available, and to enable the entry of cable TV operators³² that can provide telecommunications and programming distribution services and may make selective use of new broadband wireless technologies.

The attainment of the second objective B will require a judicious and balanced mix of actions to enable fair and transparent competition to develop, taking account of the legitimate interests of existing competitors as well as of potential entrants. A priori, in a micro market such as Montenegro, the presumption should be that the large investments needed to build networks and the prospects for capturing a large enough revenue stream from a very small market to recover these investments will tend to discourage (but may not entirely exclude) entry by facilities-based operators, even when barriers³³ such as high license fees or difficulties in securing interconnections are removed. Hence the Agency should expect to have to stimulate competition at the services level as much if

³² Cable TV operators are significant providers of broadband access – and in some cases telephone services as well – in countries as diverse as the U.S., Belgium, Switzerland and Slovenia (Telemach).

³³ The removal of entry barriers does not guarantee that (or how many) entrants will actually appear in the market; however these barriers should be removed, otherwise the opportunities for innovation and entrepreneurial initiatives that entrants may bring to the benefit of Montenegro will not be explored and tested against the criteria of reasonable and informed investors.

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not more than at the network level. The arena of the Agency's actions with respect to operators and service providers over the next few years should encompass:

1. Ensuring that license or authorization fees are only set to cover administrative costs (except for licenses to use scarce resources such as spectrum frequencies and numbers, which can and should be higher) and are not a barrier for entrants; in particular entry into the international telecommunications market should be facilitated, including direct international connection by mobile operators for their customers;
2. Developing cost accounting and separation procedures to be applied by the operators designated in the Law on Electronic Communications as having SMP;
3. Developing the basis for a revised and expanded RIO (Reference Interconnection Offer) from Telekom CG;
4. Establishing conditions for wholesale offers from existing facilities-based competitors (fixed and mobile) that respect their right to earn a reasonable return on their investments while allowing room for others to compete at the services level on the basis of competitive advantages they may create at this level;
5. Establishing clear and reasonable conditions for the entry of cable TV operators into Montenegro who can offer telecommunications as well as program distribution services;
6. Assessing the costs and benefits of number portability and carrier selection and pre-selection within the Montenegrin context, to determine if and/or when these capabilities should become a requirement; estimates of costs should be obtained from potential third party providers of the necessary services, such as operation of a number database, as well as from existing operators in Montenegro.

The following two recommendations outline action priorities for the Agency and ways of ensuring that the interests of users (residential and business) are properly taken into account in its decision making.

RECOMMENDATION A1 – ACTIONS FOR THE AGENCY FOR ELECTRONIC COMMUNICATIONS AND POST

The intent of the Strategy has to be given life and meaning through byelaws or sub regulations which the newly restructured Agency (see Recommendation R1 above) enacts and enforces. The major priorities and foci of the Agency's initiatives should include:

- Development of knowledge and expertise in cost accounting, allocation, and separation methods to be applied within SMP operators as soon as is practically feasible; consulting assistance from organizations that have helped introduce such systems into other European operators would be desirable;

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- Establishment of a timetable for the implementation of these accounting methods by SMP operators to justify their prices and the transparency of their actions in relevant, i.e. SMP markets;
- Review of existing and creation of new Rule Books on numbering;
- Implementation of new Authorization regime for providers of Electronic Communications Networks and Services (see Recommendation R9 above);
- Formulation of byelaws or sub-regulations for Universal Service (see Recommendation R12 above);
- Formulation of byelaws or sub-regulations for the obligations of SMP operators, including cost-oriented pricing, interconnections and wholesale offers;
- Broadband access services: Areas to which the Agency should devote attention to stimulate the growth of the use of broadband access services include:
 - Establishing conditions for the spread of cable distribution networks that can offer competition to ADSL via cable modems (see Recommendation R10 above);
 - Introducing a requirement for Telekom CG to offer unbundled local loops and a wholesale ADSL service (see Recommendation R6); and
 - Facilitating and encouraging the introduction of broadband wireless access in the form of Wi-Fi (so-called “hot spots” in hotels, cafes, and other locations such as airports and public buildings) and by making spectrum available for emerging technologies such as Wi-Max. The practical value of “hot spots” will depend upon the availability at reasonable prices to the owners of these locations of broadband links from operators, most notably Telekom CG.

In addition, the Agency should initiate an investigation into the fundamental policy and regulatory issues that are raised by the use of the Internet to carry voice traffic (VoIP) and the emerging application of IP (Internet Protocol) technology within the networks (even the local networks) of traditional telephone carriers. This investigation should be assigned to a Task Force with international as well as Montenegrin representation, so that Montenegro is as well prepared as possible to manage the inevitable transition from a circuit switched to a hybrid and eventually an all IP world. Appendix 5 outlines the scope of the fundamental transformations which network operators and serviced providers are facing as a consequence of this transition.

RECOMMENDATION A2: ENHANCING THE VOICE OF THE CUSTOMERS

One of the responsibilities of the Agency is to take account of the interests of the users or customers for electronic communications networks and services as well as those of the

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various providers or suppliers of these offerings. The problem in satisfying these twin obligations (towards customers and providers) is that the provider side of the equation is dominated by a small number of large organizations whose views and influence can be manifested in a coordinated and concentrated manner. In contrast, customers are very numerous (notably in the case of residential customers who are individuals or households) and typically do not have large organizations through which their opinions can be collected and coordinated and presented to the Agency in a coherent manner.

The public consultation procedures that the Agency follows offer one limited mechanism for redressing this imbalance. In other countries in North America and Europe Consumers' Associations or Groups (for residential customers) and Business Groups (some industry sector-based, others cross-sectoral, and some specifically focused on telecommunications) carry this approach further, and in some cases – thanks to the lobbying power of large businesses or if politicians feel the impact of popular opinion – they can have a marked effect.

In the context of the very small market of Montenegro, the Agency should pay attention to the opinions of organizations representing operators, service providers and users, regarding the influence of the availability, quality, and pricing of electronic communications networks and services on their current and future prospects. On the consumer front, the Agency should ensure that it incorporates the provisions of the Consumer Protection Law and makes use of surveys or polls to assess consumers' opinions and the evolution of their experiences and expectations.

3.3 RECOMMENDATIONS FOR THE GOVERNMENT'S ORGANIZATION AND CONDUCT RELATED TO ELECTRONIC COMMUNICATIONS

The development of an Electronic Communications Strategy has raised questions about the structure and working methods of the Government of Montenegro, and how it can improve its own effectiveness and efficiency, which extend far beyond the scope of the Ministry of Economy which has the responsibility for formulating this particular Strategy. The two areas that should be addressed are:

- (a) The impact of decisions made by the Government with respect to the electronic communications services it requires for its own use; and
- (b) The relationships between the Electronic Communications Strategy and other diverse but related and necessary complementary Strategies and initiatives that are involved in the creation of an Information Society, to which goal Montenegro is formally committed.

The Recommendations outlined in the following paragraphs are included in this document because it has become apparent that in order to achieve the broad goal of creating an Information Society, for which purpose an Electronic Communications Sector

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Strategy together with a broader ICT Strategy, are essential components. Action is needed to:

- Overcome the obstacles inherent in a scarcity of human resources and the difficulty of attracting and retaining ECS staff given the better compensated opportunities available outside the Government;
- Reinforce and ensure the regularity and effectiveness of coordination of plans and initiatives between the various Ministries and entities within the Government with respect to electronic communications; and
- Avoid continuing fragmentation of ECS human resources that are currently scattered across multiple entities within the Government.

3.3.1 Planning and Use of Electronic Communications

In the formulation and implementation of an Electronic Communications Strategy, the GOM, i.e. all State administrations, has an important role to play as a major user of electronic communications services, i.e. customer of network operators and services providers, in addition to its responsibilities for setting policy and defining a legal and regulatory framework for this sector. There are several goals to keep in mind in the context of this role of the Government as customer:

- ✓ As a major customer (i.e. source of revenues) for network operators and services providers, the GOM can exert significant influence – and hence help ensure the timely and effective implementation of the Strategy - in terms of the types and commercial conditions of the services they provide and plan to enhance and develop, if it negotiates efficiently and effectively with them to meet its own needs; and
- ✓ The GOM should minimize the expenses of the network services it requires to deliver its services in many domains (health, education, welfare, security, administration of the judicial system etc.) to its constituents, i.e. the residents, businesses, and local governments of the Republic, and its foreign and international interlocutors;
- ✓ The GOM should establish a network environment that facilitates the introduction of new, and improvements in existing services provided to its constituents in an e-government context, to achieve the maximum cost effectiveness of these services for its own benefit and that of its constituents.

It is widely recognized that two particular challenges for Montenegro are posed by scarcities in funding for investment in electronic communications and in the limited availability of local expertise (technical, project management, managerial, economic and market planning etc.) in electronic communications. In the case of the GOM itself, the difficulty in finding and retaining enough staff for its purposes in electronic communications is compounded by the lure of more attractive, e.g. in terms of

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compensation, employment opportunities for such local staff that are offered by the private sector or abroad.

At the same time, all electronic communications users, in Montenegro as elsewhere, are taking account of major technology-fuelled trends in this sector, which are stimulating a major transformation in the ways in, and the capabilities with which electronic communications services are implemented. These well recognized trends in networks, enabled by developments in technology from architecture to hardware, software and systems and applications, are leading towards the implementation of multi-purpose packet-switched (IP-based) networks (in contrast to the circuit switching of traditional telephone networks), and to the increasing importance of mobile-capable wireless networks as both competitors and complements to fixed access networks. One of the outstanding uncertainties, and controversies, in electronic communications, is the relative extent to which wireless (both fixed and mobile) access networks will compete with or complement the use of wired (copper and fiber) access. Both phenomena are visible today and will probably continue to develop. A second related question is how users may best be able to access applications and services as seamlessly as possible independently of the particular access facilities that may be available to them at different times and locations. These uncertainties and possibilities are part of the considerations to be included in the GOM's planning process for its future electronic communications services.

The planning of future electronic communications networks and services by and for the Government should neither be harmfully fragmented by organizational entity (e.g. each Ministry or entity does its own planning and procurement) nor by traffic type (e.g. data-only networks) unless there are very powerful reasons for doing so, such as very stringent operational demands in the realm of security that cannot be met in a shared, modern, well-engineered digital network..

Under the circumstances just outlined, two recommendations emerge:

RECOMMENDATION G1: CONSOLIDATION OF HUMAN RESOURCES

The electronic communications and information technology expertise that today is scattered among several departments or Ministries of the GOM should be consolidated into a single entity (an ICTD, or Information and Communications Technology Department) that will operate as a service or support organization for all the Government. This group will function in a manner analogous to that of the central IT and Telecommunications departments of many companies, which deal on an organization-wide basis with issues ranging from network policies, strategy and architecture to relations with suppliers of services and equipment and procurement.

Another responsibility of the ICTD, which may contribute members to an MOE-created ECPAG (Electronic Communications Policy Advisory Group) as described below in Recommendation G3, will be to provide expert assistance and knowledge as needed by

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the Ministry of Economy to fulfill its responsibilities with respect to the formulation of policies and legislation concerning the ECS.

Furthermore, regular training and education opportunities in networking and computing should be made available to staff in the ICT Department to make employment with the Government as attractive as possible. It is also desirable that experts from outside the Government should be seconded to the Department for various periods of time or to help with specific tasks or projects.

The question of where this Department should be attached is one that the GOM should itself decide, since it affects the overall organization of the Government beyond the scope of the Electronic Communications Sector Strategy project. More important even than its exact location within the Government – which might be for example as part of the Ministry of Economy, the Secretariat for Development, or reporting directly to the Prime Minister – is the need to ensure, by statute and operational practice, that the ICT Department (ICTD) participates actively and responsively to help all departments in the Government to fulfill their specific responsibilities (e.g. policy making) regarding, and meet their particular needs (as users) for, electronic communications networks and services for all forms of traffic: voice, data, image, and video. The ICTD, whether part of the Secretariat for Development or not, should also coordinate with and be called upon to contribute to e-government planning under the direction of the Secretariat, to ensure that the performance, coverage and usability goals of the network services that these projects require are consistent with, and as necessary influence the development of electronic communications networks and services for the Government.

Among the critical responsibilities of the ICTD, acting on behalf of all Government Ministries and entities, should be negotiation with outside vendors of electronic communications networks and services, and assessments of what the GOM can do internally and what should be outsourced and contracted to third parties.

It is clear, for example, that one of the benefits to Telekom CG from becoming a member of the Deutsche Telekom Group (DTG) is that it can obtain substantial discounts for the equipment it now purchases as compared to the prices it formerly paid as a relatively small independent entity, thanks to the global purchasing arrangements negotiated by DTG with suppliers. The GOM should try to negotiate within its own sphere analogous supply agreements for all branches of the Government and government-owned enterprises to achieve the most favorable commercial terms it can on the basis of its total purchasing volumes. The goal of the GOM as an intelligent, coordinated purchaser of electronic communications networks and services is to optimize financially and otherwise its own use of electronic communications, as well as to promote the introduction and use of e-government services for residents and businesses.

RECOMMENDATION G2: COORDINATED NETWORK PLANNING

The GOM through the ICT Department (see preceding Recommendation G1) should initiate planning for a future (beyond the term of its current contract with Telekom CG)

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integrated national IP-based network for its purposes, that will carry both non-voice (data, image, video) and voice traffic. It should consider alternative solutions that might include (this is not necessarily an exhaustive list):

- Continuation of use of Telekom CG's MPLS-based network, with the addition of voice traffic (via VoIP);
- Construction of its own private IP network, that might be based on transmission capacity obtained from Telekom CG and/or from any other public network operator (even if only in some geographic areas), including but not limited to sources such as the electric utility EPCG or the Montenegrin railroad if they enter the telecommunications market;
- Various hybrid combinations of its own and third party facilities and services.

Several variants of these alternatives should also be assessed, most notably with regard to local connections, i.e. links between a network node and various buildings or locations throughout a town or municipality, for which both wireless and wired alternatives available from several sources may be candidates.

It has been noted that the Strategy for ICT Development which was produced in the first half of 2004 for the Secretariat for Development³⁴ and adopted by the Government contained plans for an MPLS-based network for the Government supplied by Telekom Montenegro. This Strategy recommended that other sources of provision for the Government's needs be considered only if these needs exceeded the capacity of Telekom CG's network. However, other very important factors in the selection of network services must also be taken into account, such as costs, operational performance and conditions of use. It would be in the Government's interests as a user and customer in negotiations with Telekom CG to have plausible alternatives available so as to secure the best possible terms, even if it decides eventually to stay with Telekom CG's MPLS network for the long term.

Fundamental changes have occurred since the Strategy for ICT Development was adopted, notably the privatization of Telekom and the potentially substantial expansion of the Government's network-based services as illustrated in Appendix 4. Furthermore the long term costs of Telekom's MPLS network to the Government are currently undefined and its applicability in a 5 year time frame to meet all the Government's important needs in the most cost-effective manner (for example, how voice traffic can best be accommodated) is uncertain. The question of how best to satisfy the Government's network services requirements should be revisited, and in addition to negotiations with Telekom alternatives to its services should be identified and evaluated.

The ICTD should also evaluate the advantages and disadvantages of continuing to run separate networks for some specific purposes as compared to combining all networks into

³⁴ "Strategija razvoja informacionog društva – put u društvo znanja", Secretariat for Development May, 2004

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one. There may be special circumstances, such as the stringent requirements for security and availability of the Ministry of Interior's network for police and border security purposes, which justify continued use of a separate network in a very few cases. But the burden of proof should lie with the Ministry or Department that is seeking justification not to use a future integrated network. Furthermore economies of procurement from suppliers of equipment and services should in any event be negotiated across the entire spectrum of the Government's needs.

In addition to fixed networks, the GOM's coordinated planning should include consideration of its mobile communications needs, both voice and non-voice, which might also be satisfied by a mix of public and private wireless networks and services. Alternatives to be considered include (again, not necessarily an exhaustive list):

- Development of a shared digital trunked radio network (TETRA (TErrestrial Trunked Radio)-based) to be used by multiple branches of Government and by Government-owned or public enterprises;
- Negotiation or renegotiation of one or more Closed User Group (CUG) arrangements with GSM operators (the Ministry of Interior has an existing arrangement of this kind with Telekom CG's mobile subsidiary Monet);
- Combinations of the preceding alternatives for different applications (e.g. TETRA for police, security and other public safety ("Bluelight") applications and GSM elsewhere).

In the case of mobile as in fixed networks, the comparison, i.e. economic merits and capabilities, of separate versus integrated or combined multi-user networks for Government purposes should be assessed. The analog mobile radio systems now used by the Government, e.g. the Ministry of Interior, are old and obsolete, but the Government's plans to replace them by modern digital systems are frustrated by lack of funding. This problem could be mitigated by combining different needs and hence multiple potential sources of funding. Absent the installation of modern digital mobile radio systems Montenegro will be unable to meet all its goals, such as fulfillment of requirements for the cross-border cooperation of European authorities as embodied in the Schengen Treaty using common frequency spectrum. Montenegro's intent is to join the Schengen regime with the aim among others (such as more effective cross-border cooperation for security purposes) of facilitating the travel of its citizens for business and recreational purposes.

As already emphasized, in all negotiations with public electronic communications services providers, the GOM should exploit its volume purchasing power to obtain the most favorable commercial terms through a public tender process to minimize its electronic communications expenses for any given set of services. In addition, the GOM should make use of external consulting assistance on a project basis to help meet its specific and peak needs for electronic communications expertise and also ensure that it has access to and knowledge of the best practices being implemented in the private sector.

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RECOMMENDATION G3 – ELECTRONIC COMMUNICATIONS RESOURCES FOR THE MINISTRY OF ECONOMY

The Ministry of Economy (MOE) has specific responsibility for formulating Strategy and policies for the Electronic Communications Sector. To fulfill this responsibility the MOE must have access to, and/or employ staff with the requisite mix of expertise, knowledge, and experience in the legal, regulatory, financial and economic aspects of the Sector as well as familiarity with its market dynamics and developments on a local, regional, and even global basis.

However, it will be very difficult if not possible to attract and retain staff with these qualifications to the MOE, to formulate policy for the Sector as required by Law. The compensation offered in government service is significantly lower than these staff can find in the private sector or abroad, or even in the Agency for Telecommunications. Hence the Ministry should consider alternatives such as:

- Establishing separate and higher compensation arrangements, if this can be done within the rules of employment by the Government, for a limited number of staff in the MOE (such as five, with a mix of economic, legal/regulatory, market/industry, and financial backgrounds, plus administrative assistants with a good command of English) who concentrate on key issues such as Electronic Communications which require expertise that is in high demand;
- Establish an Electronic Communications Policy Advisory Group (ECPAG) that will develop Electronic Communications Strategy and Policies for approval by the Minister. This Group should be constituted as a permanent entity, but with the expectation that the staff, again five in number, will only devote a proportion of their total time (say 20-25% over a year, concentrated at particular times) so that the total costs are acceptable. Sources of staff for this group should be sought as widely as possible, and include expatriate Montenegrins in other European countries as well as the Americas who may be motivated for personal as well as other reasons to contribute to the rebuilding of their country of origin³⁵.

In either case, these structures should be supplemented by Task Forces created on an ad hoc basis to tackle important individual issues that arise to help formulate recommendations for the Minister or for the ECPAG. One of the elements of ongoing Sector Policy formulation, with active participation of the Agency, should be the early and timely identification of difficult issues whose scope and impact justify the creation of a Task Force. A far reaching example of such an issue would be monitoring the justification for and progress of an anticipated transition towards all IP or packet switched-based networks in the Republic (see Appendix 5), and the benefits that can be derived from this transformation. A more specific and shorter term example would be the establishment of policy with respect to the authorization of VoIP services.

³⁵ Expatriates from other countries from Ireland to India and Korea, and Romania to Taiwan have been making significant contributions to the economic development of their respective countries of origin.

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It should also be emphasized that staff in the MOE involved in Electronic Communications must have ready access to modern information gathering and processing tools, such as high speed Internet access, personal computers (at their desks and laptops for mobile use), databases on electronic communications in Montenegro and elsewhere, and international telephone service.

Regular training programs and educational opportunities should also be made available to MOE staff concerned with the ECS. They should be able to take part in the same training and education open to members of the ECS group (see recommendation G1 above) on the technical side, as well as in programs that focus on management and public policy issues, market dynamics, and regulatory questions.

3.3.2 Coordination of Plans and Actions for the Information Society

Montenegro is committed to the principles and action plans of the World Summit on the Information Society (WSIS), organized by the ITU, whose first phase was held in Geneva in December, 2003, while the second phase took place in Tunis in November, 2005. The Electronic Communications Sector Strategy for Montenegro is a necessary but far from sufficient component of what Montenegro needs to do to fulfill this commitment. Many other key public policy issues must be addressed, such as network security, spam, cyber crime, and the administration of Internet names and addresses, as well as the development challenges of how to introduce e-government applications and services and facilitate the spread of computer access and literacy (a major goal for schools at levels of education) among the residents of Montenegro.

Coordination, coherence, and mutual support between the actions and plans of various parts of the GOM which are responsible for these diverse aspects of an overall Information Society initiative are essential if its full benefits are to be realized. The isolated implementation of an Electronic Communications Sector Strategy without parallel complementary initiatives, for example, to offer e-government services and stimulate the use of PCs and other types of internet-capable terminal equipment in residences and businesses can only be of limited value.

Unfortunately, to a large extent, despite concerns regarding the scarcity of financial and competent human resources available within the GOM to plan and manage Electronic Communications and Information Society initiatives, there is considerable fragmentation of these resources within the GOM. There is no established visible working-level process for coordinating diverse initiatives related to the Information Society on a regular and continuous basis. It is not clear, for example, whether or how a strong push to develop attractively priced, widely available broadband access services would be accompanied by a corresponding effort to make PCs as widely available as possible to the residents of Montenegro and to its schools, or to encourage residents and businesses to take advantage of potential new e-government services.

The following Recommendations address this gap.

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RECOMMENDATION G4 – COORDINATED PLANNING AND DECISION MAKING

Cooperation from the planning to the implementation stages of projects and Government services that depend both on electronic networks and services and computer-based applications and databases should be strengthened and formalized. Mutual review and joint working between groups such as the ICTD (see Recommendations G1 and G3) and representatives from the Ministry of Economy, the Secretariat for Development and other concerned Ministries (depending on the service involved, e.g. health, education, social services etc.) should be a requirement before any significant investments can be approved, or policy or strategy documents submitted for approval to Parliament. Participation of companies from the electronic communications and IT (Information Technology) sectors should also be solicited.

RECOMMENDATION G5 – AWARENESS OF ELECTRONIC COMMUNICATIONS AND ICT (“BRAND MONTENEGRO”)

The maximum benefits from the application and use of electronic communications and ICT will be generated if as many residents of Montenegro and potential foreign investors as possible are made aware of and where appropriate contribute actively to the development and use of ECS facilities and services in the Republic. The Government can stimulate these processes of awareness and contribution through initiatives at many levels to raise the visibility of Montenegro as a location and society which is committed to building an advanced set of ECS-dependent applications and services which benefit economic and social activities.

The Government should include messages to foster ECS/ICT awareness and progress in its internal communications with citizens and residents (e.g. in schools, publicity concerning the availability and advantages of using e-Government services etc.) and its external relations (e.g. the activities of MIPA (Montenegro Investment Promotion Agency) to attract foreign investment).

3.4 POTENTIAL FUTURE ROLE OF PUBLIC SECTOR ENTERPRISES IN THE ELECTRONIC COMMUNICATIONS SECTOR

In Montenegro, as elsewhere, there are several rights-of-way enterprises, that may be publicly or privately owned, such as electric utilities, railroads, pipeline companies, and roads, which possess assets (the rights-of-way themselves and telecommunications networks), that are applied to meet their own communications needs. These same assets can be built upon to offer public electronic communications networks and services, and have been used for this purpose in many instances, in countries from Europe to North and South America and Asia.

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Hence there is a basis for arguing that these same types of assets in Montenegro can and should be exploited to provide competitive public network services, and indeed they may offer the most plausible economic alternative for doing so, at least in the fixed network which is still a *de facto* monopoly. Nevertheless, caution should be exercised in prescribing the conditions under which competitive possibilities of this origin may or should be realized.

It is impossible to predict all the kinds of entrepreneurial opportunities that investors considering electronic communications networks and services founded upon the rights-of-way and existing communications infrastructure of enterprises such as utilities may perceive, or whether or which ones may achieve commercial success. Examples of both failures and successes can be found elsewhere. However, the prospective entry of publicly owned enterprises into the electronic communications market in Montenegro raises several strategically significant issues from the perspective of the Republic as a whole.

First of all, in current and foreseeable financial circumstances there is no surplus public investment from the Government budget that is available to build out new publicly owned electronic communications businesses. Secondly, if the creation of such businesses were allowed, it would revive the question of how to ensure that the Government's role as creator of the regulatory framework was not being distorted by its role as a major shareholder in a competitor it is regulating. Removal of this concern is one of the benefits of the privatization of Telekom CG that was recently consummated, although similar concerns may reappear if the BC becomes a new public network operator, or if another obvious candidate for entering the electronic communications business, the monopoly electric utility EPCG³⁶, does so. The EPCG is supervised by the same Ministry of Economy as the regulator. Furthermore, any investments made by public enterprises such as EPCG (the BC is in a different situation since its core business is a transmission network) should be directed as a matter of first priority into their core businesses, which are in sore need of such investment, with a lower priority given to any diversification of their activities beyond what is needed to support the operation of these core businesses.

Nevertheless, the assets that have just been outlined could potentially be used to create value within the electronic communications sector, so it would be inappropriate to rule out any possibility for, or to prohibit absolutely their exploitation. Hence the following Recommendation has been developed to establish conditions under which the network assets of state-owned enterprises may be used to offer public electronic communications networks and services.

³⁶ Its counterpart in Slovenia – the 100% state-owned Elektro-Slovenija – has entered the electronic communications sector; Eles Telekomunikacije is a special sector within Elektro-Slovenija d.o.o. engaged in the provision and marketing of telecommunication services on the basis of its own telecommunications infrastructure, which comprises an optical and a radio network, SDH (synchronous digital hierarchy) telecommunications equipment, and basic facilities (structures, buildings, and radio towers).

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RECOMMENDATION P1 – CONDITIONS FOR USE OF PUBLIC SECTOR-OWNED ASSETS TO PROVIDE PUBLIC ELECTRONIC COMMUNICATIONS NETWORKS AND SERVICES

No funding from the Government budget should be invested in the launching of public electronic communications networks and services provided by state-owned enterprises. However, private investors (domestic and/or foreign) should be allowed to negotiate for the use of the rights-of-way and even for the acquisition of other telecommunications assets of state-owned enterprises³⁷, for the purpose of establishing a public electronic communications company which they control. The state-owned enterprise may own a percentage of this new company, in a joint venture with the outside investor or investors.

The principle followed in formulating this Recommendation as throughout the Strategy is that it should be left up to investors to judge and decide whether, and if so how, they can invest profitably in electronic communications, without any unreasonable obstacles or incentives being placed in their way that distort the competitive playing field either in their favor or in favor of other competitors. No prediction is made as to whether in practice, or when if ever, investors may perceive and then act upon opportunities in electronic communications in Montenegro that build upon the rights-of-way and other relevant assets of public sector companies such as EPCG³⁸.

Another public sector enterprise that could in principle offer public electronic communications services is the Broadcasting Center which currently provides transmitting and transport facilities to broadcasters, as well as (like EPCG) sites to mobile operators for their base stations. The BC, whose assets were formerly all owned by Telekom CG, became a public sector enterprise reporting to the Ministry of Culture and Media at the beginning of 2005. Like EPCG, the BC would have to find funding from sources other than the GOM if it were to expand its activities in electronic communications. The BC does have plans to introduce a wireless-based SDH backbone network (described in Chapter Two).

EPCG itself has developed plans for its own high capacity national backbone network based on OPGW (Composite Ground Wire with Optical Fiber) technology and has also outlined the potential role of PLC (Power Line Carrier) as an alternative broadband access technology. It has identified a wide range of options for its possible participation in telecommunications markets, exploiting assets which are also applicable to meeting its internal telecommunications needs. But so far funding for the necessary investments has not been available.

The question of the appropriate supervision of state-owned enterprises competing in markets for public telecommunications services arises in the context of concerns about conflicts of interest between the Government as creator of the regulatory framework, and

³⁷ In the extreme case, an investor may take over the entire electronic communications operation of a public sector enterprise, which then outsources its electronic communications needs to this divested operation.

³⁸ EPCG does already rent space on its towers and elsewhere to the public mobile operators Monet and ProMonte.

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owner of competitors in the sector. This concern is greatest in circumstances in which the Government owns the incumbent and largest player, at the same time as it is trying as a regulator to facilitate effective and efficient competition to this incumbent. The concern is much lower in circumstances such as those found in Montenegro in which the state-owned enterprises are either minor and/or only potential competitors in limited segments of the total market. At the moment two such state-owned enterprises report to two different Ministries, i.e. the BC to the Ministry of Culture and Media and the EPCG to the Ministry of Economy, which also supervises the regulator. It could be argued that all state-owned enterprises involved in public telecommunications should report to a Government Ministry other than the Ministry of Economy to minimize the chances for, or appearance of, conflicts of interest. However, the small size of Montenegro makes this possible approach impractical as well as inconsistent with the need and recommendations for consolidation of ICT expertise and resources within the Government. The Ministry of Culture and Media for example does not possess the expertise to supervise a network operator such as the BC. Hence the better alternative is for all state-owned enterprises involved or likely to become involved in public telecommunications to report to Ministries with the requisite expertise, which in the case of the BC means the Ministry of Economy. This conclusion regarding the BC, as well as the current reporting situation of the EPCG, provides additional justification for ensuring and even reinforcing safeguards for the independence of the regulator (the Agency) from the Government through implementation of the recommendations contained in this Strategy.

In addition, the governance of the BC should be changed to meet the condition of independence between a regulator and the entities which it is regulating. The members of the Management Board of the BC should not be appointed (and recalled) by the regulator (as they are under the current Broadcasting Law by the BA or ARD), but by the Government or the Minister of Economy acting on behalf of the Government. If the BC is to become a competitive telecommunications network operator, then the structure of authorized nominators of members of this Management Board, which currently allocates four out of seven positions to broadcasters (divided equally between public and commercial services) should be changed to reflect the BC's broader and more competitive role.

Provided that the conditions and concerns identified above are addressed, competitive entry into the public telecommunications sector by state-owned enterprises should not be prohibited. The investors themselves, including the state-owned enterprises and any partners they find, should be required to justify any such ventures according to typical market and business criteria and assessments.

3.5 ALTERNATIVE NETWORKS AND TECHNOLOGIES

The use and development of network technologies is one aspect of the formulation of the GOM's overall strategy for the ECS. As far as possible, the Government's aim should be to create an environment in which competitive investors have the opportunity to make their own choices regarding which technologies to deploy in light of their independent

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commercial judgments. Ideally no one technology should be given preferential status over another, especially because forecasting technological progress is subject to similar uncertainties as are other areas of forecasting. For example, the dominant role of Internet technologies was not widely foreseen as recently as 10 years ago.

Nevertheless, the ideal of strict technology neutrality on the part of the Government needs to be tempered in light of two factors. The first factor is a universal one, namely the fact that spectrum is a scarce resource and potential interference between different uses of the same frequencies must be considered, so that choices of how to use frequencies cannot be left entirely up to investors. The second factor is related to the very small size of the Montenegrin market, so that choices of technology at one time are much more likely to preclude the introduction of new technologies later on than is the case in large markets which can more easily support several competitive offerings.

One way to mitigate this problem is to encourage a mixed deployment of wired and wireless technologies which can both compete with and complement each other, and may be deployed with the involvement of organizations not traditionally associated with telecommunications facilities. For example, the spread of unlicensed wireless “hot spots” in both urban and rural areas in countries as diverse as Estonia and the U.S., involves the owners of locations from cafes to gas stations to hotels, camp sites and other frequently visited places, and can grow to become a significant element in making Internet access available to consumer and business users. The value of these “hot spots” depends on their connection to broadband fixed links which can be provided via wired or fixed wireless means, and for the moment in Montenegro will always or almost always depend on interconnection facilities from Telekom CG. The prices or marginal cost to users for Wi-Fi internet access can be zero, if the owner of the hot spot location chooses to “bundle” Wi-Fi access with other services provided at the location, or they can involve a per use charge or an added charge to a subscription to a service such as mobile communications (as T-Mobile, the mobile service of Telekom CG’s owner, is doing in several countries).

The challenge in Montenegro of ensuring competition throughout the ECS in all its important segments (along dimensions (which overlap) such as fixed, mobile, broadband, internet access etc.) is formidable. While the legal monopoly for fixed network services was removed at the beginning of 2004, as of the end of 2005 there are still no authorized competitors to Telekom CG in this segment of telecommunications. Furthermore in Internet access the market share of the only competitor to Telekom’s Internet CG (which competitor depends upon telecommunications links from Telekom) is estimated at no more than 3 to 5%.

Despite these obstacles there are several levers which the Government can employ in combination to stimulate competition. They include : (a) regulation (which is not addressed here but separately in another section of this document, for example in regard to such areas as network interconnection, unbundling of local loops, sharing of other facilities, and carrier selection and pre-selection), as well as (b) policies and initiatives both to facilitate the deployment of competitive networks based on assets independent of the incumbent, and to encourage “anchor” or “first mover” customers for these networks.

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The goal of pro-competitive initiatives should be to introduce network facilities that are as independent from those of the incumbent as possible – in terms of both access and long distance networks including international connectivity – with reciprocal requirements for interconnection between the incumbent and the entrant. The most obviously available means of building such a network lie in combinations of fiber optic links along rights-of-way such as those possessed by or available to organizations such as the Railroad and electric utility with broadband wireless systems of various kinds utilized in both access and premises networks (e.g. Wi-Fi and Wi-Fi mesh systems) and long distance backbones (e.g. pre-WiMAX and future WiMAX radios).

At the same time the most obvious initial “anchor customers” of such a network may well be Government bodies themselves and other public sector institutions such as schools. Neighboring Macedonia is currently implementing an ambitious wireless-based project (“Macedonia Connects”) which will initially provide broadband Internet access (512 kbps downstream, 128 kbps upstream) to some 430 schools including urban and rural schools located in remote mountainous villages. The Macedonian project has benefited from an interesting combination of sources of support, including U.S. AID funding, in cooperation with the Macedonian Ministry of Education and Science, for the selected wireless network (which includes Wi-Fi mesh equipment and pre-WiMAX radio backbones and rural links) and Chinese Government donations (\$4 million) of PCs for the schools. The project is run by the Washington, D.C.-based Academy for Educational Development and the network is being implemented by a competitive local ISP On.Net, which was selected after a competitive tender process. While the technology selected is predominantly wireless, no pre-conditions on the technology were imposed in the Request for Proposal. After an initial period schools will be required to pay for their Internet access. The eventual monthly cost of connectivity for schools is estimated at between 19-25 euros and of home access for teachers and students at between 9-14 euros. The intent is to market the network’s services to other customers to create a commercially sustainable enterprise. The schools (and government offices) are viewed as “points of presence” which can be used as springboards to reach other users once the basic distribution network is established. Direct international connectivity is provided with links to Serbia and Kosovo.

It should be noted that bidders in the competitive process were asked to propose a sustainable broadband solution for the selected 430 schools. The underlying premise is that the eventual broadband pricing to these schools once subsidies end (i.e. the project is completed) will be linked to the lowest cost broadband solution commercially available at that time, foreseen as being October, 2007. Thus if a comparable broadband solution is available from another provider for N euros a month (unsubsidized by any government entity) then the schools will pay N euros. This condition was designed to force the winning bidder to place an emphasis on commercial, governmental and home users in its proposal in order to cover its expenses. Eventually voice services will be offered, as dual-mode Wi-Fi cellular phones become available.

RECOMMENDATION N1: ALTERNATIVE BROADBAND NETWORK

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The Government should identify, assess the business case and, if attractive seek funding for a network project of comparable scope within the context of Montenegro to Macedonia Connects. It should seek assistance from available sources of funding (international and private sector) to support highly desirable public sector ICT projects, with for example schools and government offices as initial users. As noted, it is likely (even though bidders in eventual RFPs should be allowed freedom in the technologies they propose) that modern broadband wireless technologies will prove to be an important part of this initiative, although the role of long distance and metropolitan fiber optic links, whether from Telekom CG and/or from other organizations with rights-of-way, may also be important.

The potential value of this initiative resides both in the basis it may provide for a competitive network infrastructure and in the influence it may have in establishing competitive price levels for services such as Internet access and Government communications, by demonstrating that there are feasible alternatives to current network infrastructures.

This Recommendation is complementary to the Recommendation R10, to facilitate the entry of cable operators in Montenegro, in helping to create competitive network facilities which can be commercially sustainable even in a small market such as Montenegro. Cable operators can justify initial investments on the basis of revenues generated from entertainment services to build networks that can also provide telecommunications services, while users and funding to support worthy ICT projects in the public sector can provide the initial impetus to build an alternative broadband network which can then sell its services to customers in the private sector. This Recommendation is also connected to the preceding discussion (Chapter 3.4) on potential roles for public sector enterprises in telecommunications, which may play a part in the kind of alternative broadband network initiative that is proposed here.

In both cases (cable TV and an alternative broadband (most likely wireless-dominated) network), regulatory enforcement of reasonable interconnection arrangements between operators and introduction of other conditions such as carrier selection and pre-selection and number portability will be important factors in ensuring that competition that is both fair and efficient is established and maintained.

3.6 OTHER RECOMMENDATIONS

3.6.1 Broadcast Subscription Fee

Background and Justification

The current procedure for collection of the broadcast subscription fee from the residents of Montenegro by Telekom CG through its bills for fixed telephone service, under an agreement which expires at the end of 2006, is unsatisfactory on a number of counts:

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- It creates problems for Telekom CG with its customers by increasing the charges which they have to pay to Telekom, leaving Telekom with the problem of what to do if customers therefore choose not to pay or to delay payment, for reasons that have nothing to do with Telekom's own business;
- It may, for the same reason of an increased total bill, encourage Telekom's customers to substitute their fixed telephones with a mobile phone service from Telekom's own mobile company Monet or its competitor ProMonte, again for reasons that have nothing to do with Telekom's own business; and
- It does not cover customers who do not subscribe to fixed telephone service (and more households have TV sets and/or radios than fixed telephones)³⁹.

Hence the Government should seek to find alternative more effective procedures for collecting the broadcast subscription fee that are likely to achieve a higher level of coverage and do not interfere with or distort the ECS or any other market.

RECOMMENDATION O1 – NEW PROCEDURE FOR COLLECTION OF THE BROADCAST SUBSCRIPTION FEE

The Government should introduce a new procedure for the billing and collection of the broadcast subscription fee, taking this responsibility away from Telekom CG. There are several possibilities for this procedure which should be assessed and the chosen one implemented as soon as possible. It is likely in any event that Telekom itself will propose new conditions for the collection of this fee once the current arrangement expires at the end of 2006. Examples of possible procedures are outlined in the following (this is not necessarily an exhaustive list):

1. One possibility would be to transfer this responsibility to the government-owned power utility, EPCG, since every household with a TV set and/or radio uses electricity for which it is billed, and the possibilities of substitution (unlike that of mobile for fixed phones) are in practical terms non-existent (despite the theoretical possibility of the use of home generators).
2. Another possibility might be to include the broadcast subscription fee with local or municipal tax bills. Where renters are concerned, who presumably do not pay these taxes directly (but only indirectly through their rental payments) landlords would have the responsibility of adding the broadcast fee to the rental they charge. It should be noted that the Post is involved in an USAID (U.S. Agency for International Development)-

³⁹ Reliable estimates of this number are not easily available. If we use the figure of some 190,000 households in Montenegro of which 95% own TV and/or radio receivers, and the figure of 168,000 residential customers for fixed telephones (as of end-2003), then there could be an estimated 12,000 TV and /or radio households which are missed by a telephone bill-based subscription collection mechanism (neglecting any who might fall under the various allowable exemptions from this fee). The actual number of missed TV/radio households may be somewhat higher if the number of reported residential lines includes a significant number of lines to business premises that are registered as residential to avoid paying the higher prices currently charged to business as compared to residential telephone subscribers.

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supported program to print and deliver municipal tax bills within a week and save municipalities months of effort. Additionally, the Post is assisting municipalities to review their mailing databases and improve them with current information. In this review process the Post is also identifying potentially untaxed properties in each municipality.

This USAID initiative, known as the Program for Active Collection and Enforcement (PACE), is also counting upon the Post for additional support to promote municipal taxpayer cooperation. In PACE partner municipalities, the Post will deliver for free taxpayer awareness brochures that explain taxpayer responsibilities and identify how municipalities use taxpayers' money. The Post will also routinely print and deliver the first universal reminder notices for taxpayers who fail to pay their municipal bills. The goal of the Post's investment is to help transform the municipal tax office from a year-round delivery service, freeing it to focus on expanding the tax rolls, improving tax bill accuracy and working with tax payers to meet their payment obligations. Inclusion of the broadcast subscription fee in this process would be the basis of this alternative solution.

3. A third possibility would involve a public tender to solicit bids for collecting the broadcast fee, and contracting with the organization that offered the best combination of billing and collection service and cost.

3.6.2 Broadband Wireless and Mobile Virtual Network Operators

Two questions arise in the context of mobile telecommunications which have to be assessed taking account of the very small size of the market in Montenegro, namely:

- Future licenses for broadband wireless services (3G etc.); and
- Role of MVNOs (Mobile Virtual Network Operators) as competitors in mobile services markets.

The small size of the market in Montenegro raises the controversial question of whether, when, or under what conditions broadband wireless services and MVNOs (which do not build their own mobile networks but resell bandwidth of mobile operators) could represent reasonable investment opportunities in the Republic. It is far more likely that they will be able to do so if they constitute part or incremental extensions of larger regional investments which address substantially larger numbers of customers.

However, the very essence of innovation and entrepreneurship is that it is not possible to predict what new technologies and business models may turn out to be attractive even if according to today's current wisdom there are none that seem to make sense. Creative approaches towards market segmentation and marketing (for MVNOs) and emerging broadband technologies such as WiMAX and Flash-OFDM (for broadband services) may prove to be profitable in Montenegro despite concerns about oversupply or insufficient demand. The Agency should take steps to ensure that is kept up to date on these possibilities from potential new investors as well as the current network operators.

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RECOMMENDATION O2: EXPLORATION OF POTENTIAL OF BROADBAND WIRELESS SERVICES AND MVNOs

The Agency should prepare Notices of Inquiry to be distributed globally to seek information and comments to enable it to draw conclusions on the likelihood and conditions under which existing and new investors in telecommunications might respond to opportunities (a) to offer broadband wireless services and (b) to establish MVNOs in Montenegro. In regard to both Inquiries the Notices should include sufficient information about the economics of the market in Montenegro (e.g. the conditions for building a broadband wireless network and the likely prices for bandwidth which mobile operators would reasonably charge MVNOs) so that potential investors can assess opportunities in Montenegro and provide useful information to the Agency to help it decide whether, when and how to take initiatives regarding broadband wireless licenses and MVNOs.

3.6.3 Research and Development

Montenegro has both a tradition and resources in R&D related to telecommunications and more broadly to ICT. One aspect of attracting foreign investment to the Republic should be encouraging leading multinational firms to work with and contribute to these resources on the basis of positive factors such as (a) relatively low cost of qualified R&D staff, and (b) use of Montenegro as a platform for R&D aimed at regional Southeast European markets. It is noteworthy for example how awareness and exploitation of Romania's science and technology R&D resources and its tradition of excellence in engineering and mathematics has grown in recent years. R&D centers have been established by technology leaders such as Oracle, Freescale, Alcatel and Siemens, and Intel Capital and Microsoft have both made investments in this country. As another example relevant to Montenegro, Microsoft is setting up an R&D center in Belgrade with the principal mission of developing handwriting recognition software in both Latin and Cyrillic alphabets.

RECOMMENDATION O3: FOREIGN INVESTMENT IN R&D CENTERS

Although on a smaller scale than Romania (whose population is about 23 million), Montenegro should actively pursue the same goal of improving the integration of its R&D resources into the global R&D arena. There is increasing global recognition of the capabilities and presence of world-class, relatively inexpensive university-educated researchers in Eastern Europe, and Montenegro should be active in capturing a share of the foreign investments in R&D that are being made as a result.

As an element in its efforts to attract FDI (foreign direct investment) the Government, through the Montenegro Investment Promotion Agency, should coordinate resources such as those at the University of Montenegro in raising awareness among and seeking investment by ICT companies based in Europe, North America, and Asia in the establishment of R&D activities in Montenegro. Areas of research where Montenegro has specific expertise should be highlighted and potential foreign high tech investors targeted, taking advantage among other sources of information and contacts of expatriates from

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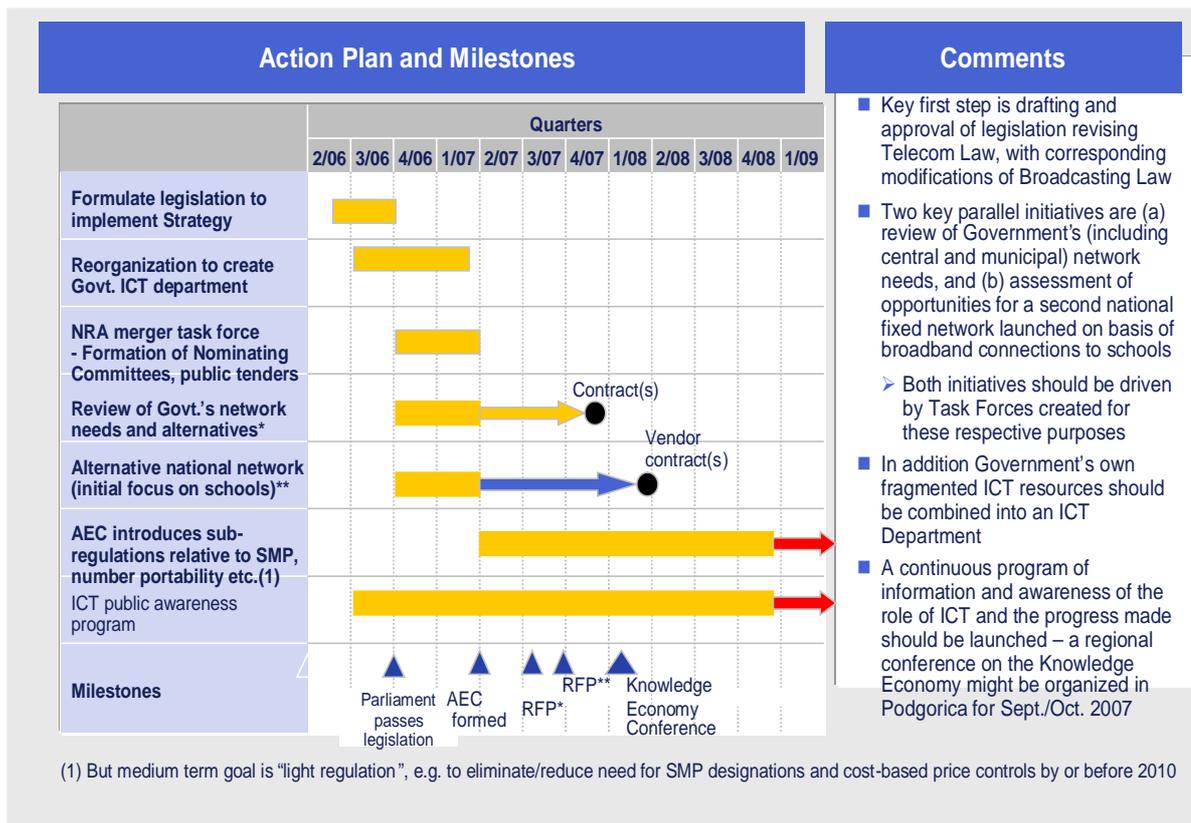
Montenegro working and living in Europe, North America and elsewhere to assist in this targeting.

3.7 SCHEDULE

The proposed schedule for implementation of the strategy and recommendations presented in this report is outlined in Figure 3.2. A critical step involves the drafting and approval by Parliament of legislation to modify the Telecommunications Law with corresponding changes to the Broadcasting Law (as far as the regulation of networks, not content is concerned) followed by the formation of the merged Agency for Electronic Communications and Post. A transition Task Force will have to be established to plan the transition to the new regulatory structure, including appropriate arrangements for existing staff, and to supervise the formation of the Nominating Committees to select key members of the AECP as described in Chapter 3.1 to be approved by Parliament. The goal should be to form the AECP at the beginning or as early as possible in 2007.

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Figure 3.2: INDICATIVE SCHEDULE FOR IMPLEMENTING STRATEGY



Several other significant initiatives can be launched in parallel once the Strategy has been adopted and the drafting of the necessary legislation has begun. These initiatives are:

- 1) Restructuring of the Government's internal ICT (Information and Communications Technologies) resources into an ICT Department whose "customers" are all Government Ministries and entities
- 2) Review of the Government's overall network needs, including both central government and municipalities and preparation of an RFP to meet these needs
- 3) Assessment of the potential for an alternative commercially sustainable national network for Montenegro, considering various alternatives or mixes of fiber optic and broadband wireless links, with consideration of how best to find funding and "anchor" users (such as an ambitious schools network) to justify launching the project.

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- 4) Planning and launch of a public awareness campaign of the meaning and implications of a “Knowledge-based Economy and Society” as a goal of Montenegro⁴⁰.

In the context of 2) and 3) above, Task Forces including representatives from the private and public sectors should be established to perform the reviews or assessments. In 3) potential sources of outside funding with experience in comparable projects elsewhere should also be explicitly involved in the process.

The outcomes of these initiatives should lead to decisions concerning future Government network services and contracts for a new national broadband network (if justified by the assessment) in the second half of 2007.

⁴⁰ See for example The Global Information Technology Report 2004-2005 (World Economic Forum Reports) by Soumitra Dutta et al. which assesses the status and progress of over 100 countries in this context.

APPENDIX 1 – KEY DEFINITIONS

Electronic communications network means transmission systems and where appropriate switching or routing equipment and other resources which permit the transmission of signals by wire, radio, optical or other electromagnetic means, including satellite networks; fixed (circuit and packet switched, including Internet) and mobile terrestrial networks; as well as cable systems for the distribution of electric power (if they are used for the transmission of signals); networks used for radio and television broadcasting; and cable television networks, irrespective of the type of information transmitted.

Electronic communications service means a service normally provided for remuneration which consists **wholly or mainly** in the transmission of signals on electronic communications networks, including communications services and transmission services in networks used for broadcasting, but excluding services providing content (such as but not limited to program content broadcast via radio and television networks) or exercising editorial control over content transmitted using electronic communications networks and services; *it also excludes information society services which do **not** consist **wholly or mainly** in the conveyance of signals over electronic communications networks.*

- Information Society services are defined as any service normally provided for remuneration, at a distance, by electronic means and at the individual request of a recipient of services; this definition excludes (a) services with material content, even if provided by electronic devices, such as ATMs (automated teller machines that dispense banknotes), (b) broadcast services, (c) services provided in the physical presence of the provider and the recipient.

Universal service means the minimum set of services defined in the Electronic Communications Law and in any subsequent modifications according to the procedures authorized in this Law which are available to all users regardless of their geographic location in Montenegro and at an affordable price in the light of the specific financial, economic, and social conditions of Montenegro.

Broadcasting means the initial transmission by wire or over the air, including by satellite, in unencoded or encoded form, of television and radio programs intended for reception by the public. It includes the transmission of programs between undertakings (e.g. between two broadcasters or between a programmer and a broadcaster) with a view to their being relayed to the public. It excludes communication services providing items of information or other messages or individual demands such as telecopying (facsimile), electronic data banks and other similar services.

APPENDIX 2 – COMPETENCES OF THE MINISTRY

The Ministry competent for activities in the field of electronic communications:

- (a) Carries out the policies of the Government of Montenegro in the field of electronic communications;
- (b) Prepares legislation in the electronic communications field in cooperation with the Agency; and
- (c) Performs activities in relation to the development of electronic communications and information technology, and the creation and development of the information society.

The Minister competent for activities in the field of electronic communications:

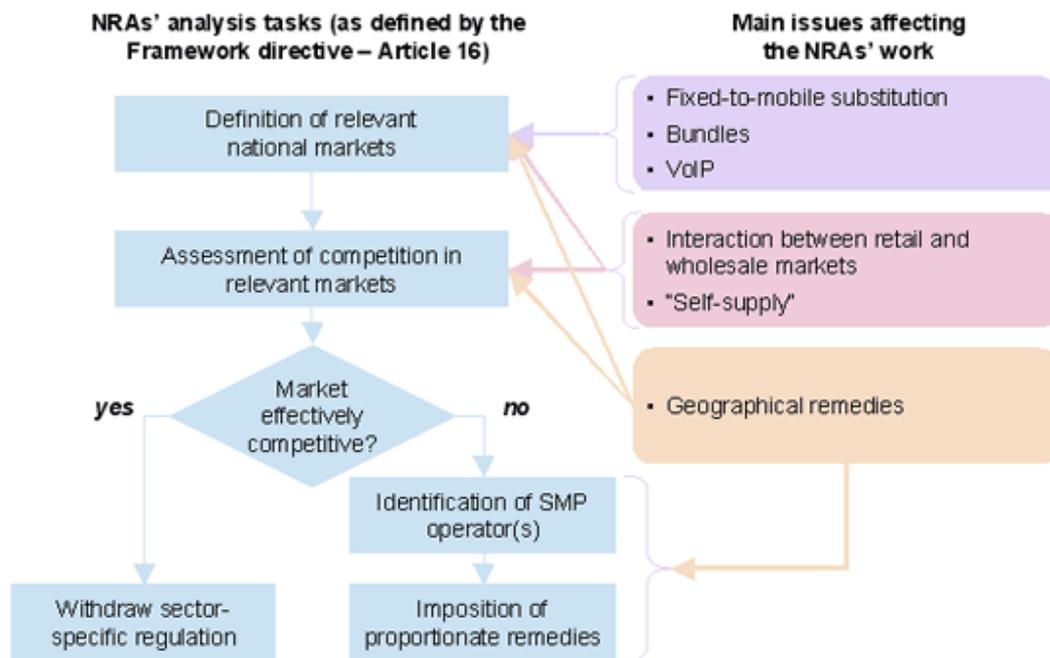
- (a) Prepares the National Strategy for the development of electronic communications, taking into account the strategy for development of information society in Montenegro, and conducts public debates prior its submission for adoption by the Government of Montenegro;
- (b) Coordinates and harmonizes activities in the field of electronic communications and information technology;
- (c) Cooperates in the field of electronic communications with the Minister of Interior and other Ministers who may in future be responsible for issues of defense and security;
- (d) Prepares legislation in the field of electronic communications in cooperation with the Agency and conducts public debates thereon;
- (e) Coordinates work with the Minister of Interior and other competent Ministries regarding the use of radio frequencies for defense and security purposes, in cooperation with the Agency;
- (f) Performs the activities laid down by this and other legislation adopted pursuant thereto, relating to the work of public electronic communication networks in the event of war and other states of emergency and the provision of public communication services in such circumstances;
- (g) Determines universal services to be provided by operator(s) selected to be providers of such services;
- (h) Represents Montenegro in the field of electronic communications and information society, and negotiates and signs bilateral and international agreements in the field of electronic communications and information society on behalf of the Government of Montenegro; and
- (i) Promotes the development of competition in the field of electronic communications, and of access to and use of electronic communications and information technology as determined by the Government of Montenegro.

APPENDIX 3 – COMPETENCES OF THE AGENCY FOR ELECTRONIC COMMUNICATIONS AND POST

The competences listed in this Appendix cover only the Electronic Communications Sector as defined in Appendix 1. Other competences the Agency may be assigned for Broadcast Content and Postal Services are prescribed in the appropriate relevant legislation (Broadcasting Law (modified as described earlier) and Postal Law respectively).

Figure A3.1 outlines the issues which regulatory authorities for electronic communications are facing today, from which their competences should be derived.

Figure A3.1: Issues Affecting the NRAs



Source: Analysis, Key principles in implementing the New Regulatory Framework, February, 2005

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Competences of the Agency are to:

- (1) Control and monitor the performance of the activities of network operators and service providers in the electronic communications sector in accordance with this Law and the provisions adopted pursuant thereto and the existing concession agreements;
- (2) Stimulate the establishment of interconnection between electronic communications networks on non-discriminatory cost-oriented terms, and if the providers of electronic communications services cannot agree about the interconnection conditions, initiate activities for ensuring interconnection;
- (3) Conduct registration with notification of the operators of electronic communications networks and services providers;
- (4) Provide access to the users of public electronic communications networks and public communications services on a non-discriminatory basis;
- (5) Prepare and administer the Plan for allocation of radio frequencies for approval by the Government which has ultimate responsibility for frequency allocation and the Plan for assignment of radio frequencies;
- (6) Monitor the use of the radio frequency spectrum;
- (7) Issue radio frequency approvals;
- (8) Conduct coordination of radio frequencies with the regulatory bodies of neighboring countries;
- (9) Prepare and administer the numbering Plan to operators of public communications networks and the providers of public communications services;
- (10) Assign numbers and series of numbers to the operators of public communications networks and the providers of public communications services;
- (11) Manage and monitor the rational use of numbers;
- (12) Prepare and administer public tenders for the assignment and use of scarce resources;
- (13) Approve the standard agreement between the operators of the electronic communication networks, providers and users of the electronic communications services;
- (14) Undertake measures pursuant to this Law in cases of violation of provisions of this Law or provisions and conditions contained in the permanent concession agreements;

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- (15) Take measures for controlling the prices for telecommunication services, in cases where a electronic communications network operator or service provider, either alone or jointly with another operator or service provider, hold a significant market position in a relevant market for telecommunication services;
- (16) Control the wholesale prices of electronic communications services determined in the reference offers of operators with significant market power;
- (17) Control the tariff regimes laid down in the current license agreements;
- (18) Manage and administer the Universal Service Fund, collect fees from operators on behalf of the Fund and make disbursements from the Fund to the universal service providers;
- (19) Resolve disputes between:
- (i) Operators of electronic communications networks and service providers concerning interconnection, special conditions for network access and/or leased lines, either ex officio or upon a proposal by either party to the dispute, in accordance with this Law;
 - (ii) Operators of the electronic communications networks and service providers pursuant to the provisions of this Law and provisions adopted pursuant thereto;
 - (iii) Users and operators of electronic communications network and service providers pursuant to the provision of this Law and provisions adopted pursuant thereto;
- (20) Create, maintain and update an electronic database containing all significant information from the electronic communications sector and ensure that the information is available to the public in accordance with the regulations on confidentiality and access to information;
- (21) Cooperate with bodies and institutions competent for consumer protection and competition and any others designated by the Law;
- (22) Follow the development of the electronic communications sector, gather data and information from electronic communications network operators and service providers and provide information for the users, operators and service providers, as well as for the international organizations and bodies;
- (23) Prepare, adopt and implement sub-regulations in the electronic communications sector to support the legislation embodied in the Law on Electronic Communications;
- (24) Prepare, adopt and implement technical regulations for assessment in the field of electronic communications;

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- (25) Approve the operation of radio stations and terminal equipment, which are used in the Republic;
- (26) Issue attests for radio and telecommunication terminal equipment, including recognition of the attests issued by other institutions;
- (27) Ensure that the operators of the electronic communications networks and service providers fulfill obligations which are prescribed in the interest of the defense, security and the public order and in the case of declared war and state of emergency;
- (28) Supervise the implementation of national and international standards and technical regulations;
- (29) Participate subject to limitations resulting from the Charter of the State Union with Serbia in the work of international organizations and associations of national regulatory bodies from the electronic communications sector;
- (30) Perform its work in a transparent and non-discriminatory manner, providing opportunity to all interested parties to give their remarks and comments regarding the initiatives, measures and decisions of the Agency;
- (31) Conduct procedures for determining the universal service provider(s) and prepare and submit the universal service agreement(s) for approval and signature by the Minister of Economy.

Appendix 3A – Purposes and Principles of Incentive Regulation

3A.1 Definition of incentive regulation

- Use of rewards and penalties to induce the network operator(s)⁴¹ to achieve desired goals where the operator(s) is (are) afforded some discretion in achieving these goals. It involves three important elements:
 - ✓ Rewards and penalties are used to motivate the operator(s);
 - ✓ The operator(s) has (have) a menu of options;
 - ✓ The operator(s) has (have) latitude in choosing how to achieve the goals.

Underlying concerns

- Asymmetric Information or Principal-Agent Problems
 - ✓ Operators generally know more than regulators about the amount of cost and effort required to achieve the goals; to solve these problems, the

⁴¹ Operator(s) designated as having Significant Market Power (SMP) who are therefore subject to more obligations than other less powerful competitors

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regulator offers the operator financial rewards for controlling costs and/or exerting effort.

- Opportunism
 - ✓ Will the regulator keep its commitments – once the regulator sees how efficient the operator(s) can be, will the regulator then demand continued performance without reward?
 - ✓ Once a sunken investment is made, will the regulator allow an adequate return on the investment?

Incentive Regulation versus Command and Control Regulation

Incentive regulation's benefits relative to command and control depend on:

- The regulator's knowledge and ability;
- The comparative administrative costs associated with the two types of regulation;
- The motives of the operator(s) and its (their) willingness to cooperate;
- The political environment;
- The underlying structure of the markets for the operator(s);
- The discipline of capital markets; and
- The risk preferences of customers and shareholders.

3A.2 Perspectives of an Incumbent or SMP (Significant Market Power) Operator

Critical Issues:

- What kinds of competitors will arise and where will they attack (licensing/authorization)?
- Access regulation – how will the market develop in all parts of the value chain?
- What is the most suitable wholesale strategy?
- Which regulatory issues are most crucial for corporate strategy and performance?
- What is the best position to adopt towards the regulator and competitors (e.g. cooperation in both spirit and action, or very slow and reluctant compliance, or strong opposition etc.)?

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Rights and Obligations

- Interconnection
 - Interconnection services and Reference Interconnection Offer (RIO) – once developed – determine the core of the SMP operator’s wholesale portfolio
- Local loop unbundling (LLU)
 - LLU offer and pricing influence among other elements the economics of independent ISPs (Internet Service Providers) and their ability to offer broadband access as DSL is introduced
- Price regulation
 - The goal of price regulation is to mimic efficient competition obliging the SMP operator to set prices that are:
 - Cost-oriented (implying rebalanced) and transparent
 - Non discriminatory
 - Price regulation limits the pricing flexibility of the SMP operator and can be implemented through either ex ante (proof of cost orientation, price cap regulation) or ex post (non-discriminatory behavior, prevent predatory pricing) regulation
 - Benchmarks can be used to verify whether the cost-oriented prices are appropriate – the question of which benchmarks are used is itself a critical one, since to give an adequate picture of pricing it will be necessary to cover a range of services for both residential and business customers
- Universal Service Obligation
 - The scope of the USO must be defined, as well as the means of funding it, as well as who is obligated to contribute to its funding and may be eligible to compete to fulfill it
- Quality of Service (targets, measurement and reporting, rewards/penalties)
 - Measures of quality or targets and the rewards and penalties associated with the incumbent’s performance must be put in place, including their implications for the reporting requirements placed upon the operator.

APPENDIX 4 – E-GOVERNMENT AND ELECTRONIC PUBLIC SERVICES

Examples of the public services to be covered in a comprehensive e-Government program are shown in Table A3.1, as defined by the European Commission. The actual set and relative priority of services should be adapted to the needs and circumstances of Montenegro.

Table A3.1: Public Services

| Residents/Citizens | Businesses |
|---|--|
| Income Tax | Social Contributions for Employees |
| Job Search | Corporate Tax |
| Social Security Benefits* | Value-Added Tax |
| Personal Documents** | New Company Registration |
| Car Registration | Submission of Data to the Statistical Office |
| Building Permission Application | Customs Declaration |
| Declaration to the Police | Environment-related Permits |
| Public Libraries | Public Procurement |
| Birth, Marriage, and Death Certificates | |
| Enrolment in Higher Education | |
| Notification of Moves | |
| Health-related Services | |

*Including as relevant unemployment benefits, child allowances, medical costs, student grants and loans; ** Examples are passports and driver's licenses

APPENDIX 5 – TRANSITION TO THE ALL-IP WORLD

The overall market trends in the networks and communications services sector being experienced in countries with well developed telecommunications infrastructures are:

- Declines in revenues from traditional fixed telephone services, with still continuing increases in revenues from mobile subscribers – but there are questions concerning:
 - How long will the growth in mobile revenues continue, or how can it be maintained as the penetration of mobile phones reaches and even exceeds 100%
 - How soon will the impact of VoIP will be felt in the mobile world as well as in fixed telephony, and
 - How long will the pricing premiums charged by mobile operators, thanks to high termination and roaming charges, be sustainable?

- Growth in revenues from broadband access and computer services, which however enjoy smaller margins than traditional telephone services.

Hence operators, even those with modern well-developed digital telephone networks, are being stimulated to plan for and begin to introduce all IP (Internet protocol) broadband networks which hold the promise of enabling substantial reductions in their costs, as well as the ability to offer a wider variety of services including video as well as data and voice. Already major operators run significant proportions of their voice as well as non-voice traffic over IP backbones (national and international). The first signs of the replacement of local digital telephone exchanges by IP equipment are becoming apparent. British Telecom (BT) and KPN (the Dutch incumbent) have already announced their intent to convert their entire network to IP.

The process of conversion to IP will require more than just a few years to be completed. The weight of installed, non-depreciated circuit switched equipment is too great. Nevertheless, it can be anticipated that among the most developed nations this process will have reached a significant stage of implementation by 2015. Furthermore, in those countries with an almost undeveloped fixed network infrastructure it may well make sense to make any new investments directly in IP networks rather than in digital circuit switched technology.

One element of the process of monitoring progress in the Electronic Communications Sector in Montenegro should involve a review of the pace of introduction of packet-based infrastructure into the networks of the Republic and its impact upon the costs and capabilities of the services that this infrastructure can support.

APPENDIX 6 – BROADCASTING AND ECS REGULATION

Appendix 6A: New Regulatory Framework for Electronic Communications

The European Union (EU) has changed the way it regulates the telecommunications sector to take better account of an increasingly competitive and technologically convergent market. The New Regulatory Framework for Electronic Communications (NRF) is a package of EU Directives that aims to bring legal certainty and a harmonized approach across the EU's 25 Member States. It covers all electronic communications networks and services, but not the content provided by and over them.

The Electronic Communications Strategy for Montenegro covers areas where there are currently inconsistencies or contradictions between Montenegro's and the EU's Regulatory Framework to recommend changes that are needed to bring the two into congruence. One example of such an inconsistency is Montenegro's license regime, which does not conform to the EU's Authorization Directive described later.

Until the late 1980's EU telecommunications markets were protected by separate Member State rules that gave incumbent, largely state-owned, national operators special or exclusive rights for providing most telecommunications equipment, services and infrastructure. Over the next decade market liberalization and pan-European regulation encouraged new players and new services, and led to substantial price reductions and restructuring ("rate rebalancing"). The region's regulators focused on forcing open markets by combating the efforts of dominant operators to keep out new entrants. Nevertheless, by the late 1990's the small number of pan European operators and the continued dominance by incumbents of their home markets indicated that a fully competitive market was still far from being achieved.

The European Commission (EC) responded to this situation by launching a Communications Review in 1999 to look at how competition could be further stimulated in the context of increasing technological convergence in electronic communications sector. Following this Review the EC proposed a package of rule changes that were eventually approved by the EU's Member States and the European Parliament, and are now being implemented and enforced across the region. These changes are embodied in a number of key Directives, as outlined in the following:

- The **Framework Directive**, or the *Directive on a common regulatory framework for electronic communications networks and services*, is the key piece of legislation that underpins the new system. It sets out the rules and principles that apply to all other Directives in the NRF (New Regulatory Framework) and defines the respective roles of the National Regulatory Authorities (NRAs) and the European Commission (EC) in coordinating the implementation and

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enforcement of the framework. It is complemented by four other new Directives covering licensing, access and interconnection, universal service and user rights, and data protection;

- The **Authorization Directive**, or the *Directive on the authorization of electronic communications networks and services*, aims to simplify the licensing process by reducing the formalities associated with starting new services, and ensuring greater consistency in licensing conditions both between countries and between different technologies. Essentially this involves a switch from individual licenses to a general authorization based system, where companies can operate as long as they meet the general authorization conditions. The only exception is for services involving the use of finite resources, such as radio spectrum;
- The **Access Directive**, or the *Directive on access to, and interconnection of, electronic communications networks and associated facilities*, sets out the principles governing the ways in which regulators deal with access issues between different operators at the wholesale level of the market. It stipulates that access and interconnection conditions should be left primarily to commercial negotiation, and regulators should only intervene where one commercial partner's dominance in the market gives it an unreasonable amount of leverage;
- The **Universal Service Directive**, or the *Directive on universal service and users' rights relating to electronic communications networks and services*, covers a broad range of issues including the setting out of the minimum electronic communications services that must be made available to all consumers in the market. It also requires dominant operators to offer carrier selection and carrier pre-selection services, and sets out a charter of consumer rights including number portability;
- The **ePrivacy Directive**, or the *Directive concerning the processing of personal data and the protection of privacy in the electronic communications sector*, covers a variety of issues ranging from spam to the use of cookies and spy ware; and
- The **Competition Directive** and the **Radio Spectrum Decision** complete the NRF package. The first consolidates existing telecommunications liberalization rules that require Member States to abolish special or exclusive rights relating to electronic communications services. The Radio Spectrum Decision aims to increase the coordinating role of the EU in spectrum issues.

The NRF represents a fundamental change in the way in which the EU regulates electronic communications infrastructure and services. In particular, it broadens the regulatory focus from the traditional public switched telecommunications network to cover all electronic communications networks and services. It also makes use of the principles of competition law to assess market dominance, and provides greater flexibility to National Regulatory Authorities to apply rules that suit local conditions and are adaptable to developing technology and changing market conditions.

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The NRF covers all electronic communications networks and services to reflect technological developments that allow data to be transported over a variety of networks and accessed through a wide range of different terminals. Electronic communications networks include “transmission systems and, where applicable, switching or routing equipment and other resources which permit the conveyance of signals by wire, by radio, by optical or by other electromagnetic means, including satellite networks, fixed (circuit- and packet switched, including Internet) and mobile terrestrial networks, electricity cable systems, to the extent they are used for the purpose of transmitting signals, networks used for radio and television broadcasting, and cable television networks, irrespective of the type of information conveyed.”

Under the Framework Directive an electronic communications service is defined as “ a service, normally provided for remuneration, which consists wholly, or mainly, in the conveyance of signals on electronic communications networks, including telecommunications services and transmission services in networks used for broadcasting, but exclude services providing, or exercising editorial control over, content transmitted using electronic communications networks and services; it does not include information society services...which do not consist wholly or mainly in the conveyance of signals on electronic communications networks”. The new rules also cover “associated facilities” meaning “those facilities associated with an electronic communications network and/or an electronic communications service which enable and/or support the provision of services via that network and/or service. It includes conditional access systems and electronic program guides.”

Under the earlier regulatory regime an operator was generally subject to more stringent regulatory measures if its market share exceeded 25%. The definitions of Relevant Markets and Significant Market Power (SMP) are now based on the principles of competition law. Operators that individually, or jointly with others, are able to behave “to an appreciable extent independently of competitors, customer and consumers” are considered to hold SMP.

The NRF provides regulators with a great deal of discretion and room for maneuver when enforcing the new rules. While this flexibility will allow NRAs to take account of local market conditions, there is a concern that diverse approaches adopted by different NRAs might lead to inconsistencies in the framework’s application. The EC has a role to play to ensure that that does not happen. The relationship between the EC and the NRAs is covered in more detail below. The success of this relationship will be fundamental to the smooth operation of the NRF.

The regulatory process basically consists of three key steps:

- ✓ First, the relevant market must be defined;
- ✓ Second, the market must be analyzed to assess whether or not it is competitive;
- ✓ Third, regulatory measures must be applied, maintained or withdrawn depending on the result of the market analysis.

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It is a matter of considerable ongoing controversy whether the two phase expectation or hope of the EC (first services competition, then facilities-based competition) is desirable or achievable, especially in smaller markets where the economic justification for multiple access networks may be very difficult if not impossible to establish from the perspective of private sector investors. In any event, there is a delicate balance to be established between enabling services-based competitors to use the facilities of an incumbent at reasonable prices (that also allow the latter to obtain a reasonable return on its investment), while not making these prices so attractive that the entrant will have no incentive to deploy its own network at some time in the future.

For steps 1 and 2 the roles and responsibilities of the EC and the national regulatory authorities are delicately balanced. The EC's **Recommendation on Relevant Markets** identifies 18 electronic communications product and service markets that it considers potentially uncompetitive, including, for example, wholesale broadband access and voice call termination on individual mobile networks. National regulators must define the geographic scope of these markets and then take "utmost account" of the Commission's **Guidelines on Market Analysis and the Calculation of Significant Market Power** as they assess whether effective competition exists in each of these markets. If the national regulator decides that the market is not competitive it must designate operators as having SMP or maintain existing SMP designations. If the market is competitive then the national regulator must remove existing SMP designations and any accompanying regulatory requirements.

Article 7 of the Framework Directive requires regulators to notify the Commission and other Member State regulators of all draft measures related to market definitions and Significant Market Power designations if the proposals could affect trade between Member States. If the national regulator defines a market not included on the Commission's recommended list, or if it introduces or withdraws an SMP designation, the Commission can require the withdrawal of the measure if "it would create a barrier to the single market or if it has serious doubts as to its compatibility with Community law", in particular the stated objectives of the new framework.

The Commission has no veto over the regulatory measures an NRA chooses to apply following an SMP designation. The **European Regulators Group** (ERG), consisting of National Regulatory Authority representatives, has been set up to encourage a consistent approach on SMP and other areas of enforcement. Its **Common Position on the approach to appropriate remedies in the new regulatory framework** aims to provide benchmarks for national regulators and guidance on best practice. In practice remedies for potential or actual abuses of SMP are the critical element of the NRF, i.e. the third and vital step in the regulatory three step process that moves from market definition and analysis, to the designation of SMP, and finally to the imposition of remedies.

The Access Directive provides NRAs with a portfolio of regulatory remedies that can be imposed on operators. These remedies include:

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- ✓ Transparency (requirements for the provision by the SMP operator of specified information such as accounting data and technical specifications);
- ✓ Non-discrimination (prevents the SMP operator from offering more favorable conditions to its subsidiaries or partners than to other competitors);
- ✓ Accounting separation (the SMP operator has to keep and provide separate profit and loss accounts for designated business units – this is a key prerequisite for applying the non-discrimination requirement);
- ✓ Access (obligation on the SMP operator to meet reasonable requests from other operators and service providers in a timely and efficient manner); and
- ✓ Price controls (the SMP operator's prices have to be justified to and approved by the NRA, including cost oriented access charges).

The Universal Service Directive provides additional options for remedies including a non-exhaustive list of retail obligations such as the prohibition of excessive or predatory pricing and price discrimination, and the unreasonable bundling of services.

The EC sees the NRF as critical to ensuring the roll out of competitively priced broadband communications infrastructure and services across the EU. It would like to see more widespread facilities-based competition (competing networks – satellite, DSL, cable, fiber, 3G and other broadband wireless) but recognizes that, in the current investment environment after the bursting of the excessive investment “bubble” in grossly underutilized network facilities, services-based competition (i.e. service providers competing on the same network) may be a good or in some circumstances even a necessary first or interim step to providing faster, less expensive, and more widespread broadband access. The EC argues that the NRF is needed to allow competitors to enter the market, and to give these competitors an opportunity to build a customer base. Later these new entrants can move up the investment ladder and start to play in the infrastructure market as they develop a customer base and revenue streams that will enable them to invest or attract investors in their own network facilities. The success of the new rules in providing an environment conducive to this investment ladder model will be judged on whether they:

- a) Facilitate market entry;
- b) Provide new entrants with sufficient incentives to build or extend their networks on the basis of success in the services market; and
- c) Encourage incumbents to upgrade their networks.

The NRF does little to blur the traditional battle lines between operators and service providers already established in the market and those trying to break in. Broadly speaking, incumbents would like to see the new framework operating to roll back regulation of their business as soon as possible, while new entrants are concerned (in those countries where significant competition has developed over the past 10-15 years) that they will lose some of the regulatory protection they have relied on to date. The

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lobbying battle has been particularly fierce with regard to the deployment of broadband infrastructure and services. Incumbents have argued that over-regulation of the market will deter them from investing in broadband internet services and networks while new entrants stress that under-regulation of SMP operators will deny them the access they need to services markets. The incumbents argue that they should not have to incur all the risk of expensive investments in new broadband access networks, from which their competitors will benefit without the risk. Therefore they will be less likely to make these investments if they are required to allow competitors to provide services over their broadband access networks paying only cost-based charges, thereby defeating the goal of the EC. It is worth noting that similar arguments have been advanced by the incumbent local telephone companies (Regional Bell Operating Companies or RBOCs) in the U.S. in the context of whether they should be obliged by the FCC (Federal Communications Commission) to share new local fiber access facilities with competitors in the same way they have been obliged to share copper local loops. According to the FCC's decisions in 2004, the RBOCs' arguments concerning fiber loops have prevailed, however the fact that large and powerful cable MSOs (multiple system operators) today account for the majority of broadband access lines in the U.S. allows the FCC to justify this decision on the grounds of there being a truly facilities-based competitive market for broadband access in the U.S., a situation that does not prevail in several EU Member States.

The New Regulatory Framework is just a framework, not a set of specific well-defined actions. Its real impact will only be felt by market players as NRAs complete their market studies, designate SMP operators and start applying remedies. The devil lies in the details and the details will be found in the implementation and enforcement of the new rules. Consistent implementation across Member States will be a key issue for operators and service providers that look at the market from a pan-European perspective.

The directives of the New Regulatory Framework (NRF) came into force across EU Member States on 25 July 2003, although implementation is still in progress in most countries. Whereas most European national regulatory authorities (NRAs) are deeply involved in the analysis of the 17 relevant markets (as recommended by the EC as of July 2003), only 6 NRAs out of the 15 EU Member States have started to adopt final measures at the national level. These six countries are Austria, Finland, France, Portugal, Sweden and the U.K. This is mainly due to the complexity of the tasks that the NRAs have been assigned. The analysis of relevant markets requires a wide range of technical, economic and legal skills.

The early signs are mixed. Several Member States missed the deadline for implementing the NRF (25 July 2003), and in April 2004 the EC was driven to take six of them to the European Court of Justice for continued delays. Nevertheless the European Commission points out that even those countries that have not formally transposed the legislation are able to start work on their market analyses. The EC reports that it has received over 100 notifications through the Article 7 procedure of the Framework Procedure described above. However the EC itself, when it announced the postponement of the Relevant Markets Recommendation review (from June 2004 to early 2005), justified its decision by stating that "even those Member States that have properly incorporated the regulatory

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framework into their domestic rules have not yet completed the market analyses for all the 18 markets mentioned in the Recommendation”. Clearly much work remains to be done.

Appendix 6B: Broadcasting Regulation

It has been emphasized that the new EU Electronic Communications regulatory framework and the corresponding scope of the Recommendations contained in the ECS Strategy for Montenegro cover infrastructure and not content regulation. Broadcast regulation in the various EU member states is, however, primarily content regulation. The basis for this approach is that radio and TV are mass media through which the attitudes and values of a whole population can be influenced. Since radio and TV are carried over a scarce public resource - radio frequency spectrum - broadcast content (radio and TV programs) has been regarded as a cultural good over which governments and legislators could and should exercise significant control in the interests of principles and values such as democracy, freedom of speech and cultural diversity. Since it has never been an aim of the EU to harmonize (i.e. homogenize) the cultural differences between its member states, its powers regarding broadcast, indeed cultural policies as a whole, are much more limited than they are in regard to economic and market issues such as trade and competition. Hence broadcast regulation, including the degree to which broadcasters and broadcast content should be regulated, has therefore mostly been left as an issue to be decided at the national rather than the EU level.

Nevertheless, the EU has promulgated a number of policies within the field of broadcast, of which the most important is the Television Without Frontiers (TWF) Directive of 1989 (revised in 1997). The TWF Directive aims at strengthening the European television sector and ensuring the free movement of broadcast services within the EU, while at the same time protecting consumers against harmful or illegal content (such as pornography and incitements to racial or ethnic hatred) from other member states. This Directive includes provisions that restrain the use of advertisements and sponsoring, protect minors against harmful and illegal content, prohibit discriminatory content, recommend a minimum quota for European television productions and implement the country of origin principle. This principle establishes that the legislation in the member state where a broadcaster is located shall also apply where the broadcaster's programs are broadcast to other member states.

The current TWF Directive (revised in 1997) does not contain provisions of direct relevance for the growing phenomena of media convergence and e-commerce via new media, primarily since its scope is limited to traditional *point-to-multipoint* broadcast. However, the Directive is currently being revised and it is likely that a revised Directive will address some of the problems following from convergence in respect of e.g. interactive television and broadcasts transmitted via other networks than traditional broadcast networks. Draft revisions were presented by the EC in December, 2005 which will be presented to the European Parliament and Council under the co-decision procedure during 2006. The proposed amendments are not major ones. They mainly

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concern the application of the provisions of the Directive to certain internet-based services and the partial lifting of regulations on advertising and product placement.

Further, Directive 95/47/EC on the use of standards for the transmission of television signals introduced the legal basis for establishing common standards within the EU for digital television whether by cable, satellite or terrestrial means. Such standards are regarded as essential for creating effective competition within the market for digital television.

Although as mentioned the new EU Electronic Communications Framework covers only infrastructure issues and not content issues such as broadcast content, it does nevertheless have some implications for the broadcast arena. The Framework reflects the development of the blurring of the traditional boundaries between infrastructure and content (which have been that different content is distributed over different infrastructures). First, the Framework applies to all communications networks and services, including broadcast. Thus, the provisions in the Framework regarding authorization to supply network and services as well as the provisions regarding allocation and assignment of radio spectrum are also of importance to providers of radio and TV broadcast.

Second, the Framework addresses the question of “must-carry” provisions. These provisions, which are contained in most member states’ broadcast legislation, seek to ensure that certain radio and television broadcast channels and services are made universally available to users. Such political considerations are not always compatible with effective competition. Thus, the Framework aims at preventing an excessive use of must-carry rules by requiring that these obligations be reasonable and transparent. At present, the must-carry restrictions only apply to broadcasts via traditional broadcast networks, and not to broadcasts via other networks such as the Internet or 3G mobile or other broadband wireless networks. This situation may change as broadcasts via such new media become substantial alternatives used by a significant number of viewers and listeners.

Third, the Framework takes over the specific regulation of conditional access systems on the use of standards for the transmission of television signals. This regulation was previously a part of the broadcast regulatory regime. Fourth, as convergence leads to the appearance of new interactive television services, including e-commerce on television networks, it becomes necessary to ensure accessibility to facilities essential for the end-user’s choice of services, such as to APIs (application program interfaces) and EPGs (electronic program guides). The Framework provides the possibility for national regulators to impose fair, reasonable and non-discriminatory obligations on operators in this respect. Thus, even though content regulation on broadcast networks still largely applies to traditional point-to-multipoint broadcasting, the new EU Framework also addresses issues related to new interactive broadcast media and services.

APPENDIX 7 – RELEVANT MARKETS FOR SMP DESIGNATION

(*source*: European Commission Recommendation, 2003/311/EC)

It should be noted that National regulators across the EU have very different attitudes regarding the identification and regulation of SMP markets. The list shown below is expected to be modified in future revisions.

Retail level

1. Access to the public telephone network at a fixed location for residential customers.
2. Access to the public telephone network at a fixed location for non-residential customers.
3. Publicly available local and/or national telephone services provided at a fixed location for residential customers.
4. Publicly available international telephone services provided at a fixed location for residential customers.
5. Publicly available local and/or national telephone services provided at a fixed location for non-residential customers.
6. Publicly available international telephone services provided at a fixed location for non-residential customers.

Together, markets 1 through 6 correspond to ‘the provision of connection to and use of the public telephone network at fixed locations’, referred to in Annex I(1) of the Framework Directive. This combined market is also referred to in Article 19 of the Universal Service Directive (for possible imposition of carrier call-by-call selection or carrier preselection).

7. The minimum set of leased lines (which comprises the specified types of leased lines up to and including 2Mb/sec as referenced in Article 18 and Annex VII of the Universal Service Directive).

Wholesale level

8. Call origination on the public telephone network provided at a fixed location.
9. Call termination on individual public telephone networks provided at a fixed location.
10. Transit services in the fixed public telephone network.

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11. Wholesale unbundled access (including shared access) to metallic loops and sub-loops for the purpose of providing broadband and voice services.

12. Wholesale broadband access.

13. Wholesale terminating segments of leased lines.

14. Wholesale trunk segments of leased lines.

Mobile Networks

15. Access and call origination on public mobile telephone networks.

16. Voice call termination on individual mobile networks.

17. The wholesale national market for international roaming on public mobile networks.

Broadcast

18. Broadcasting transmission services, to deliver broadcast content to end users.