

Issue: Draft for Consultation



REPUBLIC OF LEBANON
**TELECOMMUNICATIONS
REGULATORY AUTHORITY**

TRA LIBERALIZATION ROADMAP

3 April 2008

This document is issued by the Telecommunications Regulatory Authority of the Republic of Lebanon and is made publicly available via its web site to allow interested parties to provide their views on the issues that it raises. Anybody who wishes to do so should respond in writing to the Authority during the public consultation period. Responses must be received no later than 5.00pm on 15 May 2008.

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The TRA may publish the comments as received unless respondents explicitly ask that their responses be treated as confidential, in total or in part. If any party wishes to have the whole of its submission withheld, it should state that clearly at the beginning of the submission. If the respondent wishes to have some parts withheld, it should put them in separate annexes and clearly mark them as such.

TRA Mission Statement:

***“To establish a regulatory environment that enables
a competitive telecommunications market
to deliver state-of-the-art services
at affordable prices to the
broadest spectrum of the Lebanese population”***

**Republic of Lebanon
Telecommunications Regulatory Authority**

TRA Liberalization Roadmap

The Telecommunications Regulatory Authority (TRA) is issuing for comment this Liberalization Roadmap, summarizing the TRA’s current position and plans on various matters associated with the liberalization of the telecommunications sector in the Republic of Lebanon. As the purpose of this document is to invite comments from interested parties, it should be noted that none of the ideas expressed or comments made in this Roadmap will necessarily result in formal decisions by the TRA and nothing contained herein shall limit or otherwise restrict the TRA’s ability to take any action at any time it deems appropriate pursuant to its power under the Telecommunications Law 431 of 2002 (Telecommunications Law) and related regulations.

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1. Reforming Lebanon's Telecommunications Market

1.1. The Market Today

With a population of about 4 million, Lebanon has one of the highest levels of GDP per head (5,900 USD) in the Levant area. More than 10 million Lebanese live abroad and provide an important influx of visitors every year. Significant numbers of incoming tourists offer a sizable opportunity for the Lebanese economy despite a decline during the last two years for political and security reasons.

The telecommunications sector in the country has a large potential for growth, particularly given the limited investments and development in the past few years. The TRA is committed to exploit all the possibilities for growth in the sector in accordance with the Telecommunications Law. Such growth is expected to generate substantial benefits for the Lebanese economy and population.

Table 1: Summary of key macroeconomic data

Area (sq Km)	10,452
Population (2006)	3.84 million
Currency Exchange rate USD / LBP (2006 average)	1,507
GDP (2006)	22.628 USD Billions
GDP per capita (2006)	5,900 USD

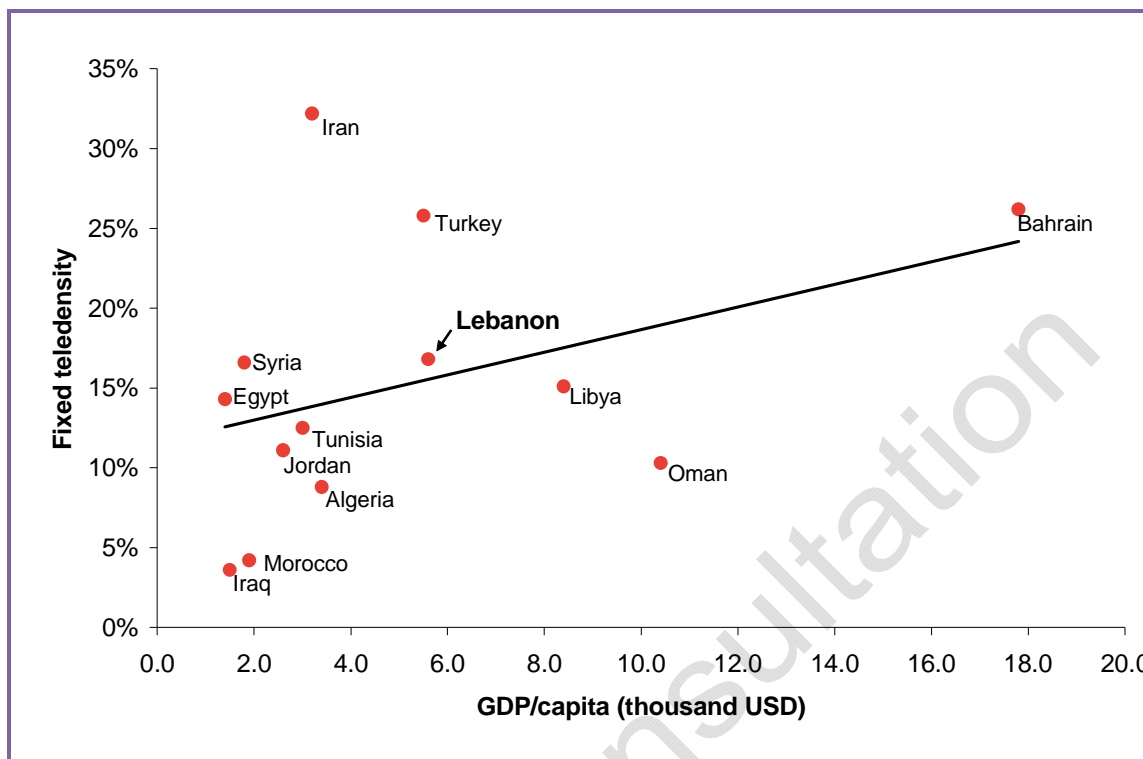
Source: World Bank

1.1.1. The Fixed Line Market

Since 1996, fixed telecommunications services have been provided by the Ministry of Telecommunications (MoT) through OGERO, whose role includes the operation, maintenance, sales, marketing and billing of the fixed line network. OGERO, a public entity, had been created in 1972 to manage and operate the telegraph and submarine network of the now defunct Franco-Lebanese Radio Orient Company. Currently, the MoT has a monopoly over fixed network services, the international gateway and leased lines. The Telecommunications Law provides for the incorporation of a state-owned joint stock company, Liban Telecom, to which the fixed line operation will be transferred.

Current fixed line penetration, defined as the number of fixed lines per 100 inhabitants, is around 18% as of June 2007. When compared with the penetration of other countries in the region, the level observed in Lebanon appears to be in line with expectations given its GDP per capita.

Figure 1: Cross country comparison of fixed line teledensity and GDP/cap



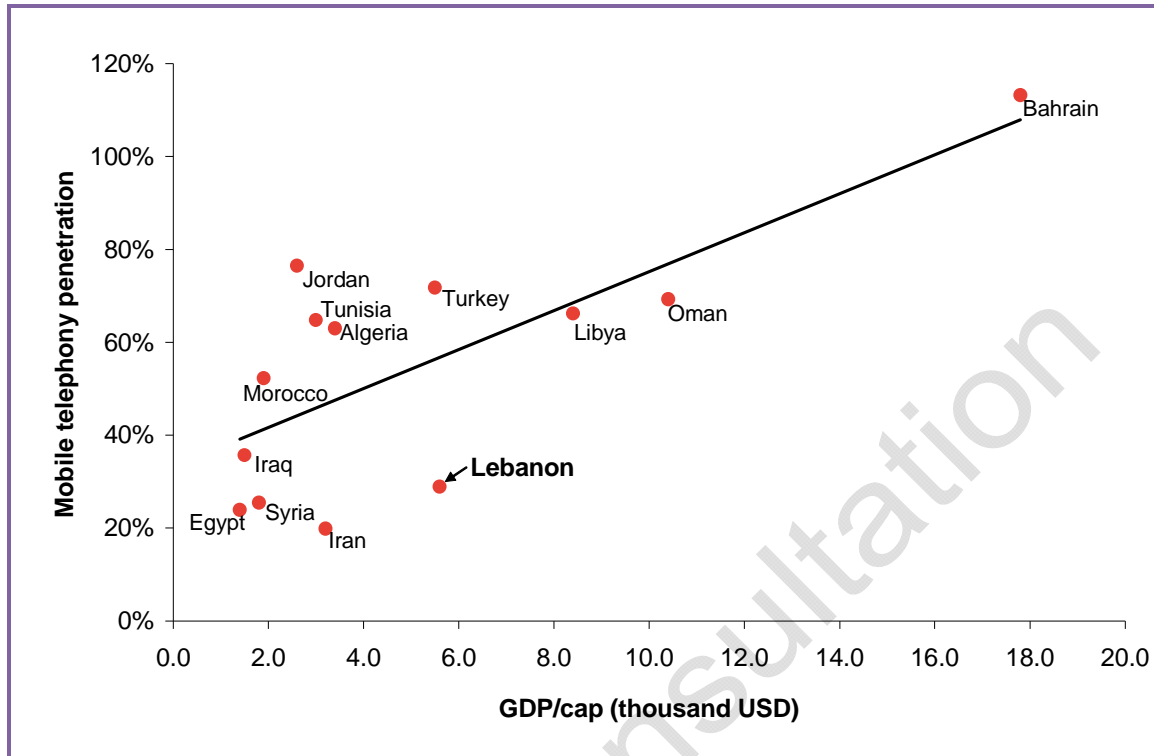
Source: Telegeography, 2006

1.1.2. The Mobile Market

The mobile market is currently served by two mobile operators which, since 2004, operate the two state-owned mobile networks under management agreements. These agreements have been entered into with FalDete and MTC Lebanon who manage MIC1(Alfa) and MIC2 (Touch), respectively. The managers are responsible for the day-to-day management of the mobile business, which includes operations, billing, marketing, maintenance and other activities. Both managers receive contractually fixed monthly amounts for operational expenditures and collected revenues are transferred in full to the MoT each month. Current arrangements do not allow the network managers to make changes to end-user service prices unless specifically authorized by the Government. In addition, an airtime tax first imposed by the Council of Ministers under the “build, operate, transfer” (BOT) agreements (1995-2002) remains in effect until the effective date of the new mobile licenses in accordance with the Council of Ministers resolution 141 dated 9 October 2007.

As of December 2007, MIC2 has a market share of approximately 52% in terms of number of subscribers while MIC1 has approximately 48%, with the level of mobile penetration around 30%. This level of penetration is well below the level expected given Lebanon’s GDP per capita compared with other countries in the region. The following cross-country comparison indicates that there is considerable opportunity for rapid future growth in the mobile sector.

Figure 2: Cross country comparison of mobile penetration and GDP/cap



Source: Telegeography, 2006

1.1.3. Internet and Data Services

Lebanon reached an Internet penetration level (users per 100 inhabitants) of 26% in 2007 according to the UN e-government survey (2008). Lebanon was the first country in the Levant to offer Internet services in 1996 and over 30 ISPs were originally attracted to the market by low entry barriers. Competition has since reduced this figure to less than twenty Internet service providers (ISPs) and six operational licensed data service providers (DSPs). Broadband digital subscriber line (DSL) services were introduced in mid-2007. Current penetration is low, but a significant increase due to pent up demand is expected in 2008.

In addition to its monopoly over the provision of fixed leased lines, the MoT currently has a monopoly over access to the international Internet gateway, with ISPs accessing international bandwidth by leasing it from MoT's international gateway.

1.2. Reforming the Telecommunications Market

The Republic of Lebanon has decided to liberalize the telecommunications market by privatizing state-owned telecommunications entities and opening the market to private sector investments and competition. To that end, the Republic of Lebanon enacted the Telecommunications Law of 2002, thereby creating a legal and regulatory framework for vital reform of the sector. Among other things, this law established the TRA.

The TRA is an independent governmental authority committed to liberalize, regulate, and develop telecommunications in Lebanon. The TRA's responsibility is to promote

competition and ensure that the rights of users of telecommunications services are respected. At its core, its vision is to ensure that the country is served by a thriving, innovative, and competitive telecommunications market place, driven by a technologically advanced infrastructure-based sector, offering services at internationally competitive prices and quality, regulated by an independent authority.

Members of the TRA's board were appointed in February 2007, and the TRA became operational in April of 2007. Since its establishment, the TRA has been building its capacity to implement this vision, carry out its responsibilities and exercise its powers under the Telecommunications Law. It has also been developing its policies for the regulation of the Lebanese telecommunications sector in accordance with its statutory mandate.

The TRA plans to enable the introduction of various forms of competition in the market, including facilities-based competition (i.e., competition between service providers operating their own networks) and service-based competition (i.e., competition between service providers who may or may not operate their own networks). Competition between different technologies will also be encouraged by the TRA through a policy of technological neutrality, i.e., leaving the choice of technologies to service providers where possible.

To these ends, the TRA is currently focusing on three pillars of reform:

- the issuance of new broadband licenses aimed at encouraging major new investment in high speed fiber networks and services across Lebanon together with effective utilization of the nation's radio frequency spectrum, which will include an overhaul of the licensing regime and the old licenses of the existing DSPs and ISPs;
- the privatization and licensing of the two state-owned mobile networks, and subsequent licensing of a third, and possibly fourth, mobile licensee to increase competition (these two licenses are referred to herein as Mobile Licenses and their holders as Mobile Licensees); and
- the privatization and licensing of the state-owned fixed line operation, as well as its ongoing regulatory treatment as a provider having significant market power over certain essential facilities, for example, leased lines, ducts and local loops.

In terms of network infrastructure, penetration and usage of services, as well as revenues and contribution to the economy, the largest telecommunications service providers are currently the state-owned fixed line operation and two mobile operations.

The privatization and licensing of these therefore represent an important reformulation of the Government's relationship with the telecommunications sector. Instead of combining in the Government the multiple roles of policymaking, regulating, licensing, owning and operating the most important service providers, these roles are now being separated. The various powers and duties of sector regulation, together with a significant role in the licensing of new providers, have been assigned to the TRA. The transition to private ownership and operation of the mobile and fixed service providers will ensure that effective commercial incentives and economic disciplines are established in what are today the most significant parts of the sector. This transition has already been set in

motion with the current mobile licensing transaction and with the ongoing corporatization and privatization of Liban Telecom.

The reform process being carried out by the Lebanese Government and implemented by the TRA is expected to align service providers' investment decisions with the country's needs for infrastructure and services, and to establish price and services driven by competition for customers' business. Rapid growth in network investment is anticipated, as is an acceleration of customer penetration rates, particularly in the mobile sector. Prices are expected to adjust, where appropriate, to reflect the commercial realities of competition and underlying costs.

The TRA is mindful of the need to ensure that the benefits from the liberalization of the sector are realized through the widespread provision of telecommunications services at affordable prices. In particular, the TRA is aware that liberalization could lead to the re-orientation of prices to costs (rebalancing) for the provision of fixed telecommunications services. The TRA will seek to ensure that any such process, if necessary, provides vulnerable consumer groups with the necessary safeguards to enjoy affordable access to basic telecommunications services.

The remainder of this Liberalization Roadmap considers the following aspects of the liberalization route for the Lebanese market:

- Section 2 describes the TRA's proposals for liberalization of the telecommunications sector in the Republic;
- Section 3 outlines the core aspects of economic regulation that the TRA intends to introduce to underpin the transition to a competitive market-place;

Section 4 presents the TRA's commitment to universal service/access and consumer protection and how it proposes to deal with issues affecting consumers of telecommunications services;

- Section 5 describes briefly how the TRA will seek to ensure that it is able to meet the challenges that the implementation of the Liberalization Roadmap will bring; and
- Section 6 explains how members of the public and the industry may comment on this Roadmap.

2. Opening the Market through Licensing

2.1. Achieving a Competitive Market

The underlying policy of the Telecommunications Law reflects the experience, amply demonstrated worldwide, that the best sector structure for telecommunications is a competitive market. Competition ensures that the economy's resources are put to optimum use by providing incentives to service providers to innovate and improve productivity. Competition is the surest guarantee that the telecommunications market will achieve its fullest potential, reducing prices, enhancing the quality of service, attracting new investments, introducing new technologies, offering new services, and improving the competitiveness of Lebanon and its businesses. Together with the appropriate regulation of the market, liberalization will contribute to the long-term prosperity of the Lebanese economy while meeting the needs of the citizens of Lebanon.

Liberalization and privatization of the country's mobile and fixed line operations will shape and set the pace of sector reform. The Telecommunications Law mandates full competition in all markets for telecommunications services and infrastructure. Exceptions are permitted only with respect to basic telephony services, international public voice services, and telex and telegraph services. The TRA seeks to attract new service providers in every market segment, but like any other regulator it has to prioritize certain areas for liberalization ahead of others. Where appropriate, it will also allow some limited leeway for legacy constraints arising out of the transition from the existing sector structure.

Given the current state of telecommunications infrastructure in Lebanon, the TRA views investment in facilities and infrastructure as highly desirable, and the licensing structure and approach to infrastructure sharing and access will generally reflect this. At the same time, the TRA is also cognizant of constraints such as the current size of the market and the capital-intensive nature of telecommunications network expansion. Where such factors suggest that the combined goals of economic efficiency and infrastructure investment are best achieved by aggregating demand in particular segments of the value chain, the TRA will take into account the merits of alternative approaches such as infrastructure sharing to avoid inefficient duplication and use of resources.

As discussed in more detail in connection with the broadband licensing plans (see section 2.3.2), the TRA may in some cases issue a limited number of licenses having the right to install specific infrastructure which other service providers do not have the right to install for a given period of time. The dependence of such other service providers upon wholesale services provided by the operators of such infrastructure can be expected to aggregate demand and improve incentives for investment in such infrastructure.

2.2. The Licensing Regime

The Telecommunications Law provides specific guidance to the TRA in licensing telecommunications services and radio frequency spectrum. The TRA aims to achieve

fair and reasonable access to telecommunications services and realize competitive conditions through licensing. The TRA will seek to ensure that all license award processes are fair, transparent, and competitive.

The TRA is currently in the process of defining the parameters, scope and sequencing of the telecommunications licensing regime. As part of this process, it may conduct public consultations on key licensing issues. Notwithstanding this ongoing process, the TRA has adopted a number of general licensing principles.

The TRA's licensing regime will encourage market entry through transparent, minimally burdensome rules and non-discriminatory minimum conditions. Consumers (corporate and residential alike) will, as the market evolves, become free to select alternative service providers at any given time. Service providers will be free, subject to their license conditions, to move in and out of existing and emerging product lines to increase their customer numbers by meeting customers' needs. Except for certain short-term, limited exclusive rights for Liban Telecom, the TRA will aim to minimize policy- or regulation-induced barriers to market entry and exit, such as where there are physical limitations, for example on availability of radio frequency spectrum or rights of way.

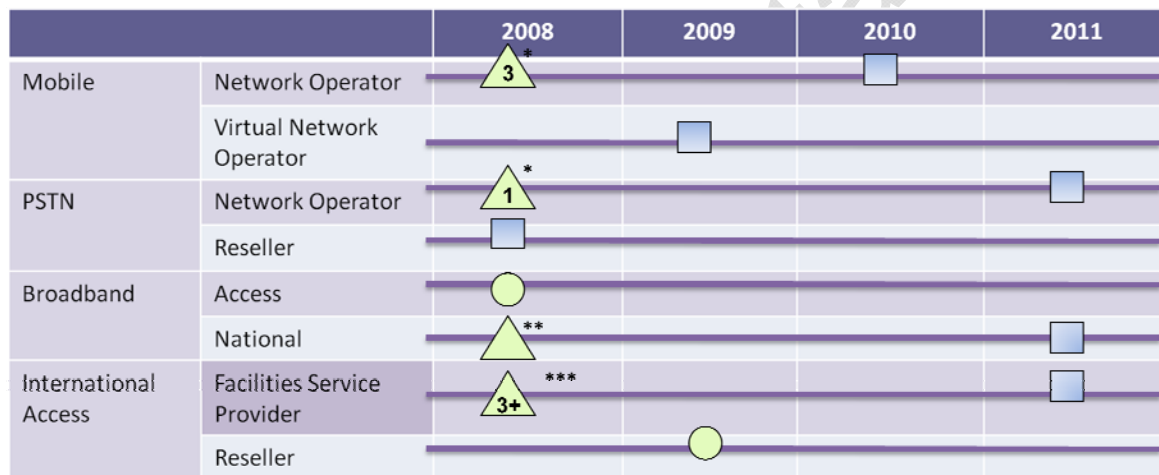
Recognizing that complex and bureaucratic licensing procedures impede market entry, the TRA is committed to a path that will lead to the greater use of class licensing for market entrants. As a general practice the TRA will issue class licenses, or general authorizations, that will apply the same terms to all providers of a class of service. In some cases, however, limited numbers of licenses will be issued to specific service providers such as the Mobile Licensees (see Section 2.4.1 below) and what are referred to in this document as the National Broadband Licenses (see Section 2.3.2 below). The TRA believes that such restricted licenses are more appropriate where the license will grant access to limited recourses (e.g. spectrum, rights of way) or where the number of licenses to be granted is limited to reduce the risk of economic inefficiencies, and possibly when minimum roll-out conditions require to be fulfilled by the licensee. In addition, Article 19 of the Telecommunications Law requires licenses for basic telephony services, international telephone services and mobile telephone services (including GSM and UMTS services) to be issued by way of a public international auction.

Furthermore, the TRA recognizes that convergence (wireline/wireless, voice/data, data/Internet, and telecommunications/media) is increasingly blurring distinctions between traditional market segments. Product bundling is likely to be an increasing trend (e.g., triple and quadruple play services). The TRA believes that it is therefore important, where possible, to avoid service-specific licensing producing a regimented market structure. Several of the service categories under the Telecommunications Law overlap with one another (e.g., data, leased lines and Internet services). The TRA does not intend to impose restrictions on licensees holding one category of license from acquiring a license for another category except where there are concerns about the effects on competition.

The TRA will generally not restrict holders of one type of license from also holding another type of license, and will consider bundling the issuance of such licenses together to lighten the administrative burden both for the TRA and for licensees. The TRA therefore expects existing and future service providers to be able to group their license rights in a manner enabling them to provide a seamless range of services.

The current plans for licensing are set out in more detail in the remainder of this section, and are summarized in the figure below:

Table 2: Summary of TRA Licensing and Market Assessment Plan



* Assuming that Liban Telecom will be formed in 2008

** The TRA is still considering the appropriate number of National Broadband Licenses to issue

*** Two licenses for the mobile operators, one for Liban Telecom and the others for the National Broadband Licenses

△ License Award ○ Open Licensing □ Market Review



2.3. Licensing for Broadband Lebanon

The TRA plans to issue licenses in 2008 with a view to establishing across Lebanon – in the cities and rural areas – access to high speed core, metropolitan and access networks. This policy is borne from the TRA's conviction that the state of the current market in high speed data, Internet and international services needs radical improvements in terms of investment in high capacity networks and introduction of new services that are available in a large number of other countries elsewhere in the world but not in Lebanon.

2.3.1. Data, Internet and International Services Today

The Lebanese market for data and Internet services is already a multi-provider environment, with six operational licensed DSPs and a higher number of ISPs. The sector is, however, restrained by a lack of infrastructure that would enable Lebanon to take advantage of the full range of traditional and new broadband IP-based data and Internet services. International and national data and Internet services are overpriced in Lebanon, with service quality requiring improvement. Available international capacity is insufficient to meet the country's aspirations to become a thriving center of telecommunications activity.

The lack of capacity and limited range of services directly restrains the development of the other sectors of the Lebanese economy, in particular where they depend on access to international communications for business with the rest of the world (e.g., financial services, media production and distribution, call centers and online services). The TRA anticipates therefore that further liberalization in this sector will attract investment and generate growth in such other economic sectors – in addition to bringing improvements in price, quality and service innovation for consumers of telecommunications services.

2.3.2. Broadband Licensing Plans

The TRA is currently preparing a comprehensive strategy for the development of broadband networks and services which would effectively exploit the latest technology opportunities offered, particularly by fiber and wireless technologies. The TRA believes that it is essential to offer incentives for the large scale investment required while encouraging competition. The TRA plans therefore to issue two types of license which will be structured to optimize the combination of investment and competition:

- National Broadband Licenses; and
- Broadband Access Licenses.

Subject to Telecommunications Law requirements, the National Broadband Licensees would be permitted to provide almost any telecommunications services that can be delivered across their networks. Services subject to Liban Telecom's exclusive rights (e.g., see section 2.5.1) would be excluded until the expiry of those exclusive rights. Mobile services are being licensed separately (see section 2.4) and would also be excluded, as may be certain other specific services. The TRA is still considering what would be an appropriate number of National Broadband Licenses to issue.

National Broadband Licenses would permit the holder to build any telecommunications infrastructure using any technology for a core network (linking nodes in the main cities of Lebanon), metropolitan networks (covering Lebanon's towns and cities), and access networks (i.e., connecting the metro and core networks to the points of presence, or POPs, that concentrate the connections of the customer premises). They would also have international gateway rights, as described further below. The National Broadband Licenses would include substantial bands of frequencies that may be used for wireless access, including the 2.5 GHz and 3.5 GHz bands, as well as the bands used for the microwave backbone.

The National Broadband Licensees would commit to fulfill certain coverage and roll-out targets to serve specified geographical areas with a specified level of connectivity within periods to be set in the licenses. However, the TRA believes that the proliferation of

access technologies in recent years, including DSL, fiber to the premises and various wireless technologies, can offer significant benefits from competition at the metropolitan and access part of the network. The TRA is therefore planning currently to make available a number of Broadband Access Licenses that will not be restricted.

Broadband Access Licenses would entitle the holders to build metropolitan and access networks connecting to customers using any technology of their choice, and to offer customers the same telecommunications services as the National Broadband Licenses. Some of the Broadband Access Licenses would be made available with radio spectrum bands, enabling them to deploy wireless access technology.

The number of Broadband Access Licenses with spectrum would be limited to the extent appropriate to avoid interference risk, as well as to ensure that significantly large bands of spectrum are made available to licensees. Broadband Access Licenses with spectrum would include some roll-out and coverage obligations commensurate with the type and amount of spectrum licensed, taking into account also the need to ensure fair competition between the National Broadband Licensees and the Broadband Access Licensees at the retail level when it comes to serving profitable and non-profitable areas.

The Broadband Access Licenses would not, however, have international gateway rights or the right to build a core network during an initial period after the issuance of the National Broadband Licenses. The Broadband Access Licensees would have to acquire international and backhaul capacity from Liban Telecom or from the National Broadband Licensees for this initial period. The TRA is examining the appropriate length of such initial period and is currently considering setting it at three years.

The TRA's broadband licensing plan thus provides the National Broadband Licensees three incentives to encourage the rapid and substantial nationwide investment contemplated:

- a limited number of National Broadband Licenses (possibly as few as one or two) would be issued in addition to Liban Telecom being granted one;
- for the initial period, only Liban Telecom, the new National Broadband Licensees, and the Mobile Licensees would have the right to build a core network for backhaul, and offer wholesale capacity and leased lines from their networks for backhaul to other service providers; and
- until the end of the initial period, Liban Telecom and the new National Broadband Licensees would be the only providers having the full range of rights to build and connect their own international gateways and to sell international services and capacity from their networks on a retail and a wholesale basis.

Regarding the third incentive above, and as explained further in section 2.5, the TRA will provide in Liban Telecom's license for it to enjoy until 1 January 2009 the exclusive right to provide international public voice services, i.e., international calls to customers. The National Broadband Licensees will not, then, be permitted to launch international public voice services to the extent permitted under the Telecommunications Law. From that date, the Broadband Access Licensees will also have the right to offer international public voice services to their own customers. During the initial period after issuance of the National Broadband Licenses, however, the Broadband Access Licensees must do

so by acquiring international capacity on a wholesale basis from Liban Telecom or the new National Broadband Licensees. As explained in section 2.4, the new Mobile Licensees will have the right to build their own international gateways but for the initial period may sell international services only to their own customers and may not provide wholesale international services.

In addition, the TRA intends to provide in Liban Telecom's license for it to enjoy the exclusive right to provide basic telephony services until 1 January 2010. Consequently, neither the National Broadband Licensees nor the Broadband Access Licensees will be permitted to provide such services before that date.

One of the TRA's aims in awarding the National Broadband Licenses is to attract investment for the construction of a fiber platform for the backhaul and transit of telecommunications signals, whether voice or data, international or domestic, on behalf of all telecommunications service providers. The National Broadband Licensees are expected to become the country's main wholesale backhaul and international capacity providers for other service providers – quite possibly even for the Mobile Licensees (e.g., for their high speed 3G services).

With the Broadband Access Licensees being dependent for the initial period upon the National Broadband Licensees' core networks for backhaul, the latter would be required to offer wholesale services to the Broadband Access Licensees, were they to be found to be dominant in the provision of the relevant services. The TRA is hopeful, however, that between Liban Telecom, the new National Broadband Licensees, and (after the initial period) perhaps some of the Broadband Access Licensees, sufficient competitive dynamics will develop in this wholesale market, to enable the TRA to minimize the regulation of these national networks. Section 3.3 discusses in more detail the TRA's approach to regulation of access to essential facilities. Access to facilities of operators with significant market power in the provision of such facilities and wholesale services across them will be part of the TRA's plan for encouraging roll-out of new services.

The exclusivity over core network provisioning in the initial period would be subject to limited exceptions. For example, if an existing DSP today operates a backhaul network using microwave frequencies, the TRA will not seek to close such existing DSP's backhaul capacity. Were such a DSP to obtain a Broadband Access License, it would be permitted to continue operating such existing microwave backhaul arrangements in order to continue serving its own customers. The capacity of such a microwave backhaul network is, however, very limited when compared to the capacity that the fiber of the National Broadband Licensees' core networks will offer. Thus the TRA anticipates that the need for greater capacity and properly priced microwave spectrum may result in a migration of backhaul provisioning from microwave networks to the wholesale fiber-based backhaul services of the National Broadband Licensees.

The TRA will consider whether additional backhaul microwave frequencies will be granted to a DSP that already operates its own microwave backhaul to increase its capacity. The TRA will weigh the importance of ensuring that the incentives are adequate for the National Broadband Licensees to invest in the core fiber networks against the need to encourage growth in the existing service providers' businesses. In addition, military would be permitted to install their own trunk networks to connect their regional sites for the purpose of their own operations. None of the exceptions mentioned

above would allow wholesale provisioning of such microwave backhaul capacity to other service providers during the initial period referred to above.

The TRA is currently in the process of developing these licensing plans for broadband in more detail and plans to issue a fuller statement on them in due course in connection with offering the licenses. In doing so, it will wish to take into account any comments provided by stakeholders on its current thinking as set out above.

2.3.3. Network Build-Out and Regulated Network Access

The roll-out of networks by the National Broadband Licensees and Broadband Access Licensees will take some time. The TRA expects to apply to Liban Telecom (and, if its establishment is delayed, to its predecessor) certain obligations to share its network and make certain services available to the National Broadband Licensees and Broadband Access Licensees, at least for the initial period of their network build out. The TRA expects that Liban Telecom (and if necessary its predecessor) will be required to make available to competing service providers access to various network elements (e.g., ducts, local loop, fiber strands and local switches sites) and services (e.g., international capacity). The TRA will be considering advancing the current nascent program of unbundling the local loop (line sharing and bit stream) for the provision of broadband data services by other telecommunications service providers.

In accordance with the Telecommunications Law, such requirements will only apply to the extent that Liban Telecom is found to have significant market power in the provision of such services according to the TRA's SMP Regulation (see section 3.1) and for so long as other providers are genuinely dependent upon Liban Telecom's infrastructure to provide their services competitively. The provision of access to such services will be required on non-discriminatory terms and will take into account the need to provide appropriate investment incentives for Liban Telecom. Depending on how the market develops, the TRA may phase out some of the network sharing obligations to ensure that the new licensees have incentives to roll out their networks.

2.3.4. Treatment of Currently Valid Licenses

The existing DSPs' and ISPs' licenses will expire on 4 April 2008, i.e., one year after the Telecommunications Law was enforced. Pending the issuance of the new broadband licenses, the TRA will issue interim licenses to those existing holders of licenses which are operational. The interim licenses will expire either at the end of 2008 or earlier (subject to a sixty day notice period for earlier termination by the TRA) to ensure that the termination of the interim licenses is coordinated with the issuance of the new broadband licenses. The existing DSPs and ISPs will be at liberty to apply for, whether separately or in one or more consortia, the National Broadband Licenses and the Broadband Access Licenses on the same basis as new entrants.

DSPs which are currently using radio spectrum and have built wireless infrastructure for their services, and wish to continue doing so will therefore likely wish to apply (or be part of a consortium applying) for a Broadband Access License with spectrum, or for a National Broadband License.

The TRA will seek to ensure an orderly transition from the existing spectrum usage to the new spectrum regime. Where possible and consistent with the new spectrum regime,

the TRA will seek to minimize interruptions and inconvenience for existing DSPs which use spectrum in their transition to the new licensing regime. In any event, however, some or all of the frequency spectrum bands which under the old licenses were licensed to existing DSPs prior to the expiry of their licenses under the Telecommunications Law and subsequently under the interim licenses will be subject to spectrum refarming (i.e., made available for different usage, whether by different licensees or technologies) over a reasonable period of time.

2.4. Reform of the Mobile Sector

The licensing of the two mobile operations and opening of the mobile market to competition is the second pillar of the transition to the new regulatory regime. Through it, the TRA hopes to achieve various key policy objectives, including retail prices that reflect underlying costs, increased access to next generation / high speed mobile, data and Internet services, new investment and upgrades to the mobile networks, and the improvement of customer care.

2.4.1. Scope of the New Mobile Licenses

The Mobile Licenses will allow the Mobile Licensees to provide any services over their licensed frequencies, including 3G mobile broadband services. The Mobile Licensees may deploy the mobile network facilities and technologies of their choice, subject only to the terms and conditions of their Licenses and equipment approval requirements under the Telecommunications Law.

In addition to the right to install, own and operate a mobile network, each Mobile License will grant the right to install, own and operate a facilities-based international gateway, which may include all forms of access to international capacity. The Mobile Licensees will be permitted to enter into bilateral and multilateral international carriage, termination, roaming and other agreements, and make physical and logical connection of their networks with any international telecommunications company and infrastructure provider except where restrictions apply with respect to particular countries. The Mobile Licensees will be permitted to provide all international services to their own end users. However, their licenses will not permit them to provide wholesale international services to service providers in Lebanon for the first three years after issuance of the National Broadband Licenses. For this three year period, this right shall remain the preserve of Liban Telecom and the holders of the new National Broadband Licenses discussed in section 2.3.2 in order to improve those licensees' incentives to invest in national fiber networks.

Each Mobile License will include geographic roll-out and coverage obligations and binding dates for implementation and coverage of mobile broadband services using HSPA+ or Wi-Max technology. In addition, each Mobile License may (if so determined by the Council of Ministers) contain an obligation requiring each Mobile Licensee to pay 10% of its gross revenues to the Government of Lebanon. Further information about the Mobile Licenses (including the draft license) and the tender process is available at .

2.4.2. Future Mobile Licenses

The TRA believes mobile market competition in Lebanon may be significantly advanced through new facilities-based mobile service providers. Although the two existing mobile

providers are currently owned by the Republic of Lebanon and so have not yet begun to compete effectively with one another, the TRA believes that major improvements in penetration and pricing of services require the introduction to the market, as soon as possible, of a third provider. Timely licensing of such a third mobile service provider would increase competition in pricing and service quality, give more choice to consumers, and enable it to capture a share of the growing market to sustain its investment and operations. The TRA wishes to see such a third mobile services provider enter the market during 2008. The TRA expects to provide that such a license would have similar terms and conditions as the other two Mobile Licenses.

The Telecommunications Law provides that Liban Telecom will be licensed to provide mobile services. If Liban Telecom is established on a timely basis, and if it is reasonably expected to launch its mobile services rapidly and in accordance with the license roll-out conditions, it will be the third licensee, and the TRA will delay licensing of a fourth Mobile Licensee until it has an opportunity to monitor the development of competition in the market. If, on the other hand, Liban Telecom's formation or the launch of its mobile services is expected to be delayed beyond December 2008, the TRA will prepare specifications and conditions to initiate an international public tender in accordance with the Telecommunications Law for an additional license for mobile services in 2009.

In any event, the first two Mobile Licensees will be subject to the obligation to provide national roaming to any additional mobile licensees, as discussed in more detail in section 2.4.5.

After the issuance of the first three (or possibly four, as explained above) licenses for mobile services as discussed above, the TRA will periodically review the mobile market (including the availability of radio frequency spectrum) with a view to deciding whether further licenses for mobile services should be issued. The TRA plans to conduct its first review (which will include a public consultation) in 2010. Until then, the three (or four) licenses would not face another full facilities-based mobile services provider. In its 2010 review, the TRA would look at the state of competition in the market at that stage, and the consumer benefits that have resulted up to that point. The TRA expects to consider, among other things, whether there may be additional benefits to consumers such as further reductions in prices, better quality of services, service innovation and increased access by increasing competition in the mobile market.

The TRA will also consider separately from time to time (possibly before 2010) whether, and at what stage, to allow limited mobility services on fixed-wireless networks or other appropriate technical platforms. It also does not rule out licensing nomadic services that use technologies other than GSM and UMTS technology.

In addition to facilities-based competition between mobile licensees, a range of non-facilities-based service competition models of Mobile Virtual Network Operators (MVNOs) have evolved around the world. These models vary from pure resellers (forming part of the distribution channel of a mobile operator and not requiring a numbering range of their own) to MVNOs operating under their own brand and possessing their own mobile numbers. The TRA does not intend to require the former resellers to obtain a license. They will be permitted to enter the market through commercial agreement with any of the Mobile Licensees. However, the provision of MVNO services that require a dedicated numbering range (and the provision by the MVNO of its own SIM cards to its customers) is expected to require a

telecommunications service license. Following the award of the two Mobile Licenses, the TRA will assess the evolution of competition in the mobile market and will formally consider at an appropriate stage whether it should provide for MVNO licensing and any related MVNO access conditions.

2.4.3. Backhaul Provision

The existing mobile operations currently lease some wired backbone capacity from the Republic of Lebanon through the Ministry of Telecommunications. The TRA anticipates that the Republic of Lebanon, and Liban Telecom after it is established, will continue to make this available, and that pricing will be commercially negotiated. If commercial agreement is not achieved, prices will be determined in accordance with procedures to be developed under the Telecommunications Law. The National Broadband Licensees are also expected to establish backhaul networks that would be available to the Mobile Licensees (see section 2.3.2).

Each Mobile License will also permit the Mobile Licensee to own and operate its own backbone and backhaul transmission network using its choice of technology, whether fiber, wireless or otherwise. Each Mobile License will identify the initial frequencies that the Mobile Licensee is entitled to use for backbone and backhaul transmission. Each Mobile Licensee will be permitted to lease capacity on its transmission network to other service providers, including other mobile service providers.

2.4.4. Mobile Number Portability

The TRA believes that effective customer choice of mobile service provider and the positive competitive pressure, or threat, of churn make it important that customers be able to change mobile service provider with ease. Accordingly, the Mobile Licensees (and any MVNOs with a dedicated numbering range) will be required to provide mobile number portability to their customers within one year of the effective date of the Mobile Licenses in accordance with a Mobile Number Portability (MNP) Regulation to be issued by the TRA which will set out how MNP must be provided.

2.4.5. National Roaming

National roaming may serve to support the development of a competitive mobile sector following the entry into the sector of new mobile service providers.

The TRA expects to apply to the first two Mobile Licensees obligations to provide national roaming to the third (and, as mentioned above, possibly a fourth) facilities-based licensee for mobile services, on condition that the new mobile service provider meets some minimum investment conditions (such as coverage and roll-out obligations specified in the new licensee's license). Such roaming arrangements would allow the new licensee to commence service provision while developing its network. Such obligations will apply on a national basis for a pre-determined period of time.

The TRA intends in due course to issue a public consultation on the national roaming policy that will describe its view on the conditions and implementation of such an obligation.

2.5. Reform of the Fixed Line Sector

2.5.1. Privatization and licensing of Liban Telecom

As explained above, Lebanon's fixed line network is currently owned by the Republic of Lebanon, which provides fixed line services through MOT/OGERO. All such ownership and activities will be transferred to the new entity, Liban Telecom.

The TRA views the creation and privatization of Liban Telecom as a major step in the history of Lebanon's telecommunications sector, and a central component of future growth. Liban Telecom will have the opportunity of leading a competitive, expanding market in services and innovative technologies to users. It will be well placed to gain from offering its network assets as a platform for other service providers.

When the fixed line network and the related assets, contracts, personnel and operations are transferred to Liban Telecom, it will become licensed to provide all of the services it provided as of the beginning of that year. Its license will be subject to the regulatory framework which will apply to all licensed service providers while taking into account Liban Telecom's special position as an incumbent provider undergoing transition. Its licensed services will include at least those services set forth in the Telecommunications Law, namely:

- a) basic telephony service;
- b) international public voice service;
- c) telex and telegraph services;
- d) mobile telephone service;
- e) national private line service;
- f) international private line service;
- g) telecommunications offices and public phones;
- h) emergency telecommunications services;
- i) numbering information and telephone directory; and
- j) any other services deemed by the TRA to serve the public interest.

Importantly, the inclusion of mobile services in Liban Telecom's license will provide it with a major new platform, complementing its fixed network, for reaching Lebanon's population with services. This will offer it a source of new revenue and margins that may facilitate its expansion into further areas. In addition, entering a market with other operators will help build Liban Telecom's ability to compete in open markets, aiding its transition from being a monopoly provider.

Despite the central pro-competitive theme running through the Telecommunications Law, the law does permit Liban Telecom's license to include certain exclusive rights. In setting the specifications and conditions of the license, the TRA will take into account the current state of development of the market and the need for a transitional period for Liban Telecom to a liberalized market.

The TRA intends therefore to provide that Liban Telecom will have exclusivity in the provision of basic telephony services until 1 January 2010, and in the provision of international public voice services to and from a fixed location until 1 January 2009. These exclusive rights will, of course, be subject to the rights of the Mobile Licensees to sell international call services on a retail basis to their own end customers.

The TRA may issue further licenses to Liban Telecom as it considers appropriate with a view to developing a competitive telecommunications market. Unless specific circumstances require otherwise, any additional license would be issued to Liban Telecom on the same basis (including regulatory obligations, associated fees and revenue sharing obligations, if any) as will be issued to all other service providers.

Liban Telecom's national network will be subject to regulation requiring interconnection and to a certain degree requiring network sharing with competitive service providers. Such matters are discussed further in section 3.3.

2.6. Treatment of Voice over Internet Protocol (VoIP)

In developing its regulations in a technologically neutral manner, the TRA must consider how traditional legal and regulatory obligations, as currently applied to the Plain Old Telecommunications Service (POTS), apply to Voice over Internet Protocol (VoIP) services. In particular, these legal and regulatory obligations relate to:

- the licensing of telecommunications services;
- the regulatory conditions under which VoIP services can be provided (e.g., related consumer protection measures); and
- Liban Telecom's exclusive right to provide basic voice telephony until 1 January 2010 and international public voice services until 1 January 2009.

In considering these obligations, the current thinking of the TRA is to distinguish between different types of VoIP usage. The TRA is inclined to view three types of VoIP usage as not requiring a telecommunications service license:

- (i) self-provided use of VoIP software applications by users (PC to PC) which do not constitute the provision of a telecommunications service and so are not subject to telecommunications license requirements;
- (ii) internal use of VoIP technology by corporations and other groups or entities (private network) which are private telecommunications services and as such are subject to the rules for private networks but will not require a telecommunications service license; and
- (iii) internal use of VoIP technology by telecommunications service providers as part of their backbone networks which they use to provide a service to customers other than a "managed VoIP" service as described below, and as such may be used without any restrictions by those providers entitled to build such infrastructure.

The TRA, however, is inclined to require providers of "managed VoIP services" – or "fully interconnected VoIP services" – to hold a telecommunications service licenses. Such services enable real-time, two-way voice communications; require a broadband connection from the user's location; require Internet protocol compatible customer premises equipment (CPE); and permit users generally to receive calls originating from a

PSTN (in Lebanon or abroad) and to make calls terminating to a PSTN (in Lebanon or abroad). In essence, they are services that, in the consideration of the TRA, customers may regard as a full substitute to PSTN service. The provision of such services would require an appropriate license, for example, one of the broadband licenses or another specific license. The provision of managed VoIP services would, however, be constrained by Liban Telecom's exclusivity periods over basic telephony services until 1 January 2010 and international public voice services until 1 January 2009. The provision of such services would therefore not be permitted under any licenses until that date.

The TRA has considered possible areas where it may need to develop special rules in relation to managed VoIP services. Such areas include:

- a) Numbering;
- b) Number Portability;
- c) Technical parameters of Quality of Service (QoS);
- d) Interoperability / Interconnection;
- e) Lawful Interception/ Protection of Confidentiality; and
- f) Emergency calls.

However, in view of the current development of the Lebanese market it does not appear that any of these areas merit treatment as an urgent issue. The TRA will consider the introduction of regulations in these areas in due course.

3. Proposed Regulation of the Market

Since its establishment, the TRA has consulted upon and published on its website proposed regulations covering a number of areas. It will continue to do so with a view to equipping the TRA with the appropriate tools and setting for the market the appropriate framework within which to function.

3.1. Competition Policy and Market Power

The TRA expects competition to be the principal driver of investment, growth and improvement in the telecommunications sector. The TRA intends to be vigilant in ensuring that market power is not abused and that new entrants can enter the market on fair terms. The TRA will also monitor signs of collusion in the pricing of services in markets where there are a limited number of service providers.

The TRA intends to issue a Significant Market Power (SMP) Regulation in the first half of 2008, explaining how the TRA will go about identifying relevant markets for the purpose of ex-ante regulation (i.e., regulation issued in order to anticipate and prevent problems from occurring) and the providers with significant market power within such markets. The TRA intends to implement regulatory remedies that are proportionate to the problems requiring remedy, whether applied to operators declared as having SMP or otherwise, and whether before or after problems arise. This principle, which is inherent in the Telecommunications Law (e.g., in its promotion of competition and provisions on forbearance), is embraced by the TRA.

The TRA may apply specific obligations to service providers with SMP, as contemplated by the SMP Regulation. For example, service providers with SMP in the market for the termination of calls on their networks will be required to provide access, interconnection or other services or facilities to other service providers on non-discriminatory terms and conditions.

The TRA's ability to counter anti-competitive behavior will be further strengthened by available remedies such as prescribing accounting procedures, including where appropriate accounting separation rules for service providers with SMP. The TRA expects this to assist it in ensuring that costs between the different services are properly allocated and costs accounted for in a clear manner. These rules will assist the TRA in identifying anti-competitive cross-subsidization, calculating the reasonable unbundled costs of interconnection, and identifying unfair interconnection pricing. This can be particularly important in the early stages of the development of competition. Accounting separation between the wholesale and retail operations of service providers with SMP can ensure that non-affiliated service providers are charged for the services that they receive in a way that does not restrict their ability to compete effectively.

In addition to the remedies and obligations specified in the SMP Regulation, the TRA expects to issue other regulations that may include obligations which apply upon finding that a service provider has SMP in certain markets. For example, under the Quality of Service Regulation that the TRA intends to issue in the first half of 2008, SMP providers will be required to meet certain minimum quality of service parameters.

In general, while service providers with SMP will face greater attention, the TRA will endeavor to use measures to increase competition in addition to (and, where feasible, instead of) imposing restrictions on these providers. In countering anti-competitive behavior generally, the TRA will take into account international practice by considering applicable principles of competition law in countries with more competitive telecommunications markets.

The TRA will encourage new entrants and consumers to alert it to anti-competitive behavior and will exercise its powers to deal with such incidents. If necessary, the TRA will consider stepping up the level of ex ante regulation to prevent any such anti-competitive activities from taking place.

3.2. Price Regulation

Consistent with the Telecommunications Law, the TRA will approach price regulation on the basis that prices should be determined by the economic principles of supply and demand and not dictated by TRA sanction, regulation, or arbitrary intervention, save where the market is not competitive. All licensees will have full flexibility in setting the prices of their services except where the TRA designates a licensee as having SMP in the market for such services. As the market is liberalized and competition develops, the TRA expects service providers not to be able to maintain price levels that are not reflective of their underlying costs for any significant period of time without regard to actions of customers and competitors.

If a licensee is designated as having SMP in the market for a service, then TRA approval will be required for the prices of such service. Prices for services offered in non-competitive markets (because of temporary exclusivity or because a service provider

has SMP) will be subject to review by the TRA, which will have the power to make any changes it deems necessary in accordance with the Telecommunications Law in order to protect consumers. In particular, TRA will monitor the prices of the incumbent fixed operation and, if appropriate, take the relevant steps for any required rebalancing of its tariffs (see sections 1.2 and 4.2 for further information about tariff rebalancing).

The TRA plans to monitor the development of the market in mobile services over the first months of the operation of the Mobile Licensees. The TRA does not exclude the possibility that, if it finds there to be a lack of effective competition in pricing, it will designate one or both Mobile Licensees as having SMP in the market for mobile call origination.

Once a market is deemed competitive, and therefore no operator in that market is designated as having SMP, the TRA will continue to monitor and scrutinize the market for possible characteristics or behavior which may restrict, distort or inhibit competition.

For the purpose of assisting the TRA in monitoring the market, public telecommunications service providers will be required to file with the TRA details of their charges and terms and conditions of their services, as well as agreements with other providers and such other reports and information as the TRA may require. The TRA will monitor developments in the market to enable it to understand changes in the market and the success or otherwise of sector policy.

3.3. Interconnection and Access

Interconnection refers to the physical and logical linking of electronic communications networks used by the same or another undertaking in order to allow the user of one undertaking to communicate with the user of the same or another undertaking. This includes interconnection between different fixed networks, between fixed and mobile networks and between mobile networks themselves. A sound framework for interconnection and access is critical to the successful functioning of the telecommunications market.

The Telecommunications Law specifically addresses interconnection, obliging all service providers with SMP to establish interconnection with other service providers at their request. Failure to interconnect on reasonable terms and on a timely basis may lead to the TRA exercising its power to set interconnection terms and conditions under the Telecommunications Law. Pursuant to its previous consultation, the TRA intends to issue an Interconnection Regulation in the first half of 2008 which sets out service provider obligations related to interconnection and access.

The TRA expects to designate Liban Telecom (or, prior to the establishment of Liban Telecom, the state-owned network) as a service provider with SMP for all interconnection services where it is found to be dominant in the provision of the services in the relevant market. If so designated, it will be required to develop a Reference Interconnection Offer (RIO) providing the details of the commercial, technical, and operational terms and conditions, including tariffs, under which it will provide interconnection, access services and infrastructure sharing. The TRA also expects to designate the Mobile Licensees as having SMP in mobile termination on their respective networks, and to require them to publish RIOs.

The existing mobile service providers and the state-owned network presently interconnect with each other and exchange traffic under a policy of "bill and keep", i.e., no wholesale payments are made between them for traffic originating on one network and terminating on the other. The TRA is currently considering the existing interconnection pricing arrangements between the two mobile operations, and between each mobile operation and the fixed line operation. The TRA will issue a statement of its position on these arrangements in due course.

Access by new service providers to unbundled elements of the fixed network is expected to be an important element of the TRA's vision of developing a platform for the deployment of new services in Lebanon, in particular broadband services. Consequently, the TRA may apply obligations regarding non-discriminatory access to such networks, and require prices of certain key access products to be based on costs. Such obligations would take into account whether a provider has significant market power in the provision of such services, and the availability of a competitive wholesale market for high capacity network provision.

The TRA will consult with market participants regarding such matters, as well as on the appropriate interconnection regime for access to and use of national IP backbone and backhaul networks. The TRA recognizes that the nature of the IP interconnect model will be fundamental to sustaining investment in the network as well as ensuring its widespread use.

3.4. Dispute Resolution

The TRA believes that an effective dispute resolution procedure is a vital element of a regulatory structure that seeks to attract investment, competition, and development in the telecommunications sector. Given the potential for disputes to impede interconnection and access to essential infrastructure, the ability of the TRA to address key issues in a timely manner will be crucial to creating a liberalized, dynamic marketplace.

The Telecommunications Law provides the TRA with important powers to resolve disputes over interconnection, access to other service providers' telecommunications infrastructure facilities and other areas. The TRA will seek to ensure that disputes are resolved in a fair, effective, speedy and transparent manner, underpinned by the need for legal certainty and predictability of the regulatory decision-making process. The TRA will exercise its powers to act as a mediator and arbitrator of disputes between service providers, prioritizing those disputes, such as those related to access and interconnection agreements, which have an important impact on the development of competition.

The TRA intends to avail itself of alternative dispute resolution processes where it believes these may be as efficient as, or more efficient than, lengthy adjudicatory processes. Where commercial, facilitated negotiation fails, however, the TRA will seek to ensure that timely and enforceable solutions consistent with the Telecommunications Law are imposed.

The TRA is currently preparing dispute resolution procedures for public consultation and plans to have them ready for issuance by the end of 2008. Service providers will be

encouraged to avail themselves of such procedures, particularly where disputes arise in connection with abuse of power.

3.5. Resource Management

3.5.1. Radio Frequency Spectrum

The Telecommunications Law addresses the management and use of public resources required for the efficient functioning of the sector. The TRA has overall responsibility for allocating radio frequency spectrum, including for uses other than telecommunications services. In this regard, the TRA will consult with the authorities responsible for the military, national security, and radio and television broadcasting with a view to ensuring that the needs of all sectors are met in a fair manner whilst ensuring efficient use of this scarce and valuable resource.

The TRA plans to carry out allocation and assignment of spectrum in accordance with the principles of fairness, transparency, and non-discrimination as embodied in the Telecommunications Law and in the WTO Telecommunications Reference Paper.

The TRA is committed to ensuring competition in all markets that require spectrum as an input and will favor strategies that provide the best quality of service and the lowest cost to the consumer. Consequently, the TRA will allocate and assign spectrum by taking into account market conditions in Lebanon and global economic and technological developments, as well as the need to allocate spectrum to new market entrants in order to further encourage competition.

During 2008, in pursuance of this objective, the TRA will conduct a review of current allocations and assignments of spectrum. In particular, the TRA expects to examine issues related to the refarming of spectrum and the decoupling of spectrum assignments from specific services and technologies. The TRA will consider mechanisms to promote the efficient use of spectrum, and to ensure that the necessary spectrum bands to provide, for example, mobile, Wi-Max and fixed-wireless local loop services, are available.

The TRA is preparing a Spectrum Management Regulation regarding its management of the overall range of radio frequency spectrum. The TRA published in March 2008 the Lebanese National Frequency Table for consultation. The TRA may exercise its powers under the Telecommunications Law to reallocate and reassign spectrum previously allocated to existing service providers in order to ensure that the nation's spectrum is efficiently allocated for the benefit of all service providers and consumers. However, it shall at all times consult all those affected by the proposed decision, provide sufficient notice and take into account the effect on a service provider's operations.

Each Mobile License will be issued with a license for the use of the assigned spectrum. Winning bidders for the Mobile Licenses will be permitted to choose from among a selection of frequencies depending on the technology they prefer to deploy. The successful applicants for the Mobile Licenses will receive spectrum in the 900 and 1800 MHz bands for GSM, as well as in the 2GHz band for UMTS deployment. In addition, the Mobile Licensees will have a choice between additional frequencies for UMTS or instead frequencies required for Wi-Max.

The use of such spectrum will be subject to TRA regulations regarding spectrum in the same manner as all other spectrum licenses to be issued by the TRA. Such regulations will include obligations to pay recurring spectrum management and usage fees, provisions to ensure efficient use of spectrum nationwide, and the right (and sometimes obligation) to share radio access networks in certain geographic areas.

The TRA's broadband policy (see section 2.3) is expected to involve substantial refarming and licensing of spectrum to ensure that broadband access can be rolled out as quickly as possible, and to generate competition among alternative DSL and fiber access technologies.

The TRA is in the process of preparing a Spectrum Pricing Opinion which it expects to issue in draft form for consultation in the first half of 2008. This document will concern the manner in which spectrum is generally to be priced, both for upfront acquisition of rights to exclusive use of spectrum and recurring annual and other fees. For example in the case of the Mobile Licenses, they will contain recurring spectrum management fees and both upfront and recurring "right to use" fees for the spectrum to which the Mobile Licensees will have exclusive rights to use. Spectrum management fees relate to the TRA's administrative cost of managing the spectrum while rights to use fees relate to the use of the spectrum assigned. These spectrum fees will be dealt with in the future under the spectrum pricing regime pursuant to the new regulation.

As detailed in the Mobile Licenses, annual right to use fees for access spectrum (i.e., spectrum for GSM, UMTS and Wi-Max, but not microwave spectrum for backhaul) will be credited towards the annual revenue share obligation, if any, of the Mobile Licensees (see section 2.4.1). Accordingly, so long as the revenue share amount exceeds the amount of spectrum usage fees, the Mobile Licensees will not have to pay any amount for spectrum usage in excess of the revenue share amount. The TRA intends to take the same approach to other licensed service providers, if any, that are subject to revenue sharing obligations.

3.5.2. Numbering

The TRA is responsible for numbering. Numbering management is concerned mainly with telephone numbers which customers need to use when making calls or sending messages. The TRA will seek to ensure that its management of the national numbering plan, including the granting of numbers, does not confer any competitive advantage or disadvantage on service providers.

The TRA is in the process of assuming control over the existing National Numbering Plan previously managed by the Ministry of Telecommunications. The TRA has issued for consultation a draft National Numbering Plan pursuant to which it expects to change the existing numbering system and charging related to numbering. The proposed changes are being introduced due to a shortage of number blocks available for allocation to service providers. These changes represent a significant milestone in reducing the shortage and improving the numbering for customers. Interested parties are encouraged to submit comments before 2 May 2008

The TRA is also developing a regulation on mobile number portability (see section 2.4.4).

3.5.3. Rights of Way

Compliance with environmental laws and the use of public and private property for telecommunications infrastructure are addressed in the Telecommunications Law. This includes a provision for a decree to be issued concerning the conditions for the use of public properties, procedures for requests for such use, and the basis for the allocation of charges, compensation and fees that shall be payable by public telecommunications service providers to public authorities for rights of way.

The TRA will exercise its powers under the Telecommunications Law to the extent possible to support service providers in seeking rights of way and resolving access requests and disputes with public and private property owners.

The TRA intends in due course to issue for public consultation its proposals concerning rights of way and how these should be implemented

3.6. Infrastructure Sharing

The TRA recognizes the potential benefits of infrastructure sharing so long as competition and investment incentives are not undermined. Capital and operating expenditures are likely to be reduced by jointly managing and maintaining certain infrastructure, as well as the future roll out of new infrastructure. This can realize long-term shared efficiencies, which may in turn enable more investment in innovative products and services, benefiting customers.

The TRA believes that Lebanese users will benefit from long-term improvements to coverage brought about by cost-savings through infrastructure sharing, particularly in rural areas. Infrastructure sharing can also ensure that service providers roll out broadband services more quickly.

The TRA will exercise its powers under the Telecommunications Law (e.g., Article 30) to review and approve agreements among service providers in a manner that ensures that the Lebanese market will enjoy the benefits of infrastructure sharing where it does not diminish the overall competitiveness of the market.

The TRA is currently inclined to promote infrastructure sharing especially:

- with regard to the civil engineering and non-active elements of a network (e.g., ducts, conduits, towers and masts);
- in areas where it is not economic for multiple operators to build infrastructure; and
- where environmental concerns are particularly important (e.g., proliferation of mobile network masts).

The TRA intends in due course to issue for public consultation an infrastructure sharing policy that will review measures to support infrastructure sharing and describe its view on the conditions and implementation of such sharing.

4. Universal Service, Consumer Protection and Other Matters

4.1. Universal Service

Universal service, or universal access, seeks to ensure that basic telecommunications services are available at affordable prices to all citizens across Lebanon.

The scope of universal service that the TRA should seek to apply is not defined in the Telecommunications Law. As such the starting point for the TRA will be to seek, through a public consultation, to define what the scope of universal service should be for all communications services, in a technology neutral fashion. Universal service typically includes requirements to provide:

- special tariff schemes for low income customers;
- a connection to the fixed network;
- reasonable geographic access to public call boxes; and
- services for customers with disabilities.

The TRA will examine the scope of a universal service policy and whether other services should be considered.

The TRA will also examine whether the method by which it will ensure that universal service is delivered, e.g. through determining one service provider as a universal service provider or by allowing, where possible, market-based solutions to meet those obligations such as allowing service providers to apply to offer these services.

Last but not least the TRA will have to consider the cost of universal service and whether there is a need for a funding mechanism for it. The TRA will look at the different methods used overseas so as to ensure that, if there is a need for such a fund, it is efficient, transparent and minimally burdensome. In terms of who would contribute to such a fund, the TRA will examine the different possible options and methods. If funding were to be based on contributions by licensees, the TRA expects that all licensees would be required to contribute to it under a fair method. The TRA will also consider whether there may be cases where certain licensees should be exempt from such contributions (e.g., where turnover is below a certain threshold). If the TRA finds that as a result of its market and cost analysis there is a need for such a fund, this is not expected to be established before 2009.

4.2. Consumer Protection

The TRA views consumer protection as an important task. This is particularly the case during the transition to an open and competitive market.

Competition will, over time, benefit consumers by ensuring lower prices, new and better products and services, and greater consumer choice than is currently available. In a competitive market, service providers will have to compete to win customers and where they fail to meet their expectations in terms of price, quality and service, customers will switch to other service providers that are able to meet them.

However, as competition does not develop overnight, there are areas where the TRA will need to ensure that consumer rights are clearly set out and consumers are properly protected. There may also be some cases following the establishment of competition where consumer protection continues to be important.

In the early stages, as liberalization could lead to a re-orientation of prices to costs, particularly fixed access prices and prices for domestic and international calls, the TRA will manage any such re-orientation (rebalancing) that may be necessary in a way that ensures that:

- consumers continue to have access to telecommunications services at overall affordable prices; and
- the most vulnerable consumers or consumer groups are protected from any potentially detrimental effect from such rebalancing.

Furthermore, following recent consultation, the TRA plans to introduce a Consumer Affairs Regulation during the first half of 2008. Under this Regulation, the TRA plans to introduce specific obligations on providers of telecommunications services related to consumers. They include, for example, obligations on providers to make publicly available adequate information about the services they will be selling and their prices, and what steps a provider has to take before disconnecting a customer. Equally important, the Regulation will include a process whereby consumers that are not satisfied with the outcome of a complaint they have with their provider will be able to challenge that outcome.

In the context of consumer protection, the Consumer Affairs Regulation should not be seen in isolation. All the regulations and policies of the TRA have, by their nature, a consumer protection aspect. Examples of these are:

- the introduction of quality of service measurements which aim to provide consumers with reliable information about quality of the service, allowing them to choose among providers which offer similar services; and
- specific consumer-related provisions in licenses, for example, regarding price changes or prohibitions on discrimination against any consumer or groups of consumers.

The TRA plans from time to time to issue additional regulations, guidance or such other material as may be appropriate so that consumers are aware of their rights and are adequately protected, until providers meet the needs of consumers as part of a fully competitive market. In the meantime, the TRA will seek to ensure that the transition is as smooth as possible, and consumers benefit from this as much as possible.

4.3. Protection of Communications and National Security

The protection of the privacy of communications is an important pillar in any democratic society. In Lebanon, Law 140 of 1999 and related regulations, procedures and directives, relating to the protection of the secrecy of communications carried out by any means of communication protects the privacy of internal or external communications carried out through wired or wireless communications. Such communications may not be

subject to any kind of listening, monitoring, interception or disclosure except for the cases and in the forms provided for in the aforementioned Law 140. This Law 140 provides for criminal sanctions in case of breach of its provisions as well as in cases of violation of the privacy of communications in general. To the extent that is relevant to its functions and duties under the Telecommunications Law, the TRA shall seek to ensure that service providers are fully aware of and comply with their obligations.

However, as in all other civilized societies, the right to privacy is balanced by the right of the appropriate authorities, subject to legal safeguards, to be able to intercept communications and obtain information relating to them where a crime has been committed or for reasons of national security. In addition to the provisions in Law 140, some licenses will stipulate related obligations. For example in the case of the Mobile Licensees, they will each be required to build a state-of-the-art lawful interception system, which includes the necessary configuration and enabling of their networks, and which will be able to deliver to the appropriate authorities the lawful interception point of interconnection that can be operated by the Government without any intervention, help, knowledge or assistance from the licensee.

In more extreme cases, when there are events that affect national security, the Council of Ministers may under the Telecommunications Law instruct service providers to give full priority to the telecommunications needs of the security forces and the civil organizations operating under their control.

4.4. Supporting E-Commerce

The TRA will examine the current framework, and will consider what, steps, if any, it should take, alone or with other authorities in the area of electronic commerce, e-signature and e-government so that online transactions and activities are underpinned by the appropriate framework. The TRA in line with Government policy wishes to see e-commerce, e-signatures and e-government promoted in Lebanon.

5. TRA and the Way Forward

The Roadmap set out above is a challenging one for any regulator – let alone one that has only recently been established. It is a forward-looking plan, developed in line with international best practice, which seeks to carry out the tasks entrusted to the TRA under the Telecommunications Law.

While pushing ahead with its everyday tasks, the TRA is also ensuring that it has the right resources in place (both in numbers and in terms of skills and expertise) to be able to perform at the highest possible standards. The TRA has over the past few months sought to recruit staff that are committed to the mission statement of the TRA, that is, “to establish a regulatory environment that enables a competitive telecommunications market to deliver state-of-the-art services at affordable prices to the broadest spectrum of the Lebanese population.” The TRA is committed to the further development of its staff and for that reason it has already made plans and initiated training to ensure that staff are up-to-date with market developments and that their skills are developed and supplemented as necessary.

As an organization, the TRA will continue to work with the industry and society by openly consulting and listening to them. This Roadmap consultation is part of this TRA commitment.

6. Next Steps

The TRA is inviting comments on its plans and its priorities, both from the industry and society as a whole. We invite those responding to let us know if they consider that there are particular steps that should be taken along the way, which they consider crucial, and which do not appear in this document. However, we would ask that those offering comment bear in mind that the purpose of this Roadmap is to give a high level view of the way forward. Specific regulations developing the key points identified in this paper will be published in due course.

This document is issued by the Telecommunications Regulatory Authority of the Republic of Lebanon and it is made publicly available via its web site so that interested parties may provide their views on the issues that it raises. Anybody who wishes to do so should respond in writing to the Authority during the public consultation period.

Responses must be received no later than 5.00pm on 15 May 2008.

The address for responses to this Consultation is:
Telecommunications Regulatory Authority
Marfaa 200, Building
Beirut, Lebanon
Attention: The Chairman
Facsimile: +961 1 964 341

Alternatively, e-mail responses may be sent to the Authority's e-mail address at roadmap@tra.gov.lb or by fax to +961 1 964 341

The TRA may publish the comments as received unless respondents explicitly ask that their responses be treated as confidential, in total or in part. If any party wishes to have the whole of its submission withheld, it should state that clearly at the beginning of the submission. If the respondent wishes to have some parts withheld, it should put them in separate annexes and clearly mark them as such.