European Bank for Reconstruction and Development (EBRD)

2012 Electronic Communications Sector Comparative Assessment

Tunisia
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0: EXECUTIVE SUMMARY

This report presents the results of an assessment of the legal and regulatory frameworks for the electronic communications markets in 31 current and prospective countries of operation of the European Bank for Reconstruction and Development (EBRD). The results indicate that the legal and regulatory risk associated in investing in the sector varies considerably from country to country. This investment risk is higher in some countries than others largely because they have not yet implemented many of the components of legal and regulatory best practice for the electronic communications sector that are now common features in lower risk countries.

The information society model used in the European Union (EU) already embraces proven best practices for the electronic communications sector. Clear policy objectives for high speed broadband for all EU citizens are implemented in fully competitive markets in all EU member states. The EU framework encourages investment and provides effective consumer and investor safeguards. Competitively neutral state subsidies are also available as part of the overall EU best practice framework in order to help private sector investment build networks into the more remote areas.

In this assessment countries with the highest legal and regulatory risk are those where the most important aspects of best practice are absent. Those aspects include:

- Slow progress in fulsome implementation of market liberalisation, characterised by policy and state-ownership conditions that still favour incumbent operators over new market entrants;
- Slow progress in the implementation by national regulators of effective competitive market safeguards. The necessary steps here range from the relatively simple introduction of number portability and the removal of tariff subsidies, to the more complex regulatory mechanism of obliging dominant incumbent operators to give new market entrants access to existing telecommunications infrastructures in order to provide a competitive choice of modern services to consumers;
- The lack of adoption by policy makers and regulators of modern spectrum management methods to ensure that sufficient spectrum is available to satisfy market needs. The lack of available spectrum in some countries is likely to become a major concern, given the very high market demand for modern high speed internet and data services (mobile and fixed broadband services).

The main recommendation of this report on assessment is for the countries which are lagging behind to accelerate the adoption of legal and regulatory best practice. Existing market players and new entrants will benefit from better laws and regulations that are now common features in low-risk countries. Modern digital technologies can free up the previously monopolistic networks and give better consumer choice, quality and value for money, as well as driving innovation. More specific recommendations are to:

- Improve the speed and effectiveness of high-level decision making in the electronic communications sector by ensuring that sector policy is precise, more clearly stated and relevant to a broadband-enabled society.
- Improve the independence of regulation in the sector so that the decisions of the regulatory agencies are taken on the merits in a manner which fairly balances the interests of sector stakeholders, principally the consumers and investors. This often involves use of a transition to a “lighter touch” in regulation, leaving the decisions to the market, via consumer and investor choice (though the timing of such a transition will depend upon the maturity of the market in question).
- Remove unnecessary market entry barriers, such as lack of available spectrum and the requirement to obtain a licence even when scarce resources are not used, to better support market growth.
- Implement the normally expected competitive market safeguards so that consumers have more market choices and also that operators have greater and fairer wholesale access to existing infrastructures.
- Support "broadband for all" policies, bringing the benefits of the information society to all citizens, including, where necessary, appropriate, non-distortionary, state subsidies to encourage private investors to expand high speed infrastructures into the more remote areas.
1: BACKGROUND AND OBJECTIVES

1.1 Background

Under the Legal Transition Programme of the European Bank for Reconstruction and Development (the “EBRD” or the “Bank”), the Bank’s Legal Transition Team has focused part of its work on the development of detailed analytical assessments of the state of legal transition in a number of commercial and financial sectors of its countries of operation. These assessments benchmark the developments in these sectors in each country against recognised international best practices, providing analysis of the existing legislative framework, comparison of that framework with best practice and the identification of gaps and legal and regulatory reform needs.

During 2012, as part of this programme of assessments, the EBRD undertook an evaluation and comparative analysis of the electronic communications sector of 31 current and prospective countries of operation (the “Assessment”)1. The electronic communications sector in this context refers to the market for the supply of electronic communications services, principally across fixed or mobile platforms, or a combination of both. The countries which are the subject of Assessment are: Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, Croatia, Egypt, Estonia, FYR Macedonia, Georgia, Hungary, Jordan, Kazakhstan, Kyrgyz Republic, Latvia, Lithuania, Moldova, Mongolia, Montenegro, Morocco, Poland, Romania, Russia, Serbia, Slovak Republic, Slovenia, Tajikistan, Tunisia, Turkey, Turkmenistan and Ukraine.

To prepare this Assessment report, EBRD contracted international consultants Premiere Dynamics Limited2 and Great Village International Consultants Inc.3 (the “Consultant”), with contributing assistance from Cullen International4 and other sector specialists5.

The results from the Assessment are available in this report and on the EBRD web site (www.ebrd.com/law).

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2 Premiere Dynamics Limited is an independent consultancy specialising in information and communications technology. Contact peter.lundy@btopenworld.com
3 Great Village International Consulting Inc. (www.greatvillage.com – contact wburnfield@greatvillage.com) provided legal analysis for Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Croatia, Egypt, FYR Macedonia, Georgia, Jordan, Kazakhstan, Kyrgyzstan, Moldova, Mongolia, Montenegro, Morocco, Russian Federation, Serbia, Tajikistan, Tunisia, Turkey, Turkmenistan and Ukraine.
4 Cullen International SA (www.cullen-international.com) provided data and analysis on Albania, Bosnia and Herzegovina, Croatia, Egypt, FYR Macedonia, Jordan, Morocco, Montenegro, Serbia, Tunisia and Turkey. Contact Philippe.Defraigne@cullen-international.com
5 The Consultant also acknowledges the contributions made by the independent lawyers Ms Marina Gudtseva and Mr Dieter Kronegger, also Mr Djuro Otaseviov Law firm Nikolic Kolanovic Otasevic, Mr Steven Rawson of ICTLawyers and Mr Armen Ghalumyan.
1.2 Participant countries

The 31 countries participating in the 2012 Assessment are divided into four geographical groupings:

1.3 Objectives of the Assessment

The primary focus of the Assessment is to examine the conditions in place in the countries assessed that influence the decisions of investors in the electronic communications sector as to whether they will invest, or continue to invest, in the sector. The methodology of the Assessment is therefore and examination of whether the legal and regulatory frameworks for electronic communications in the Bank’s countries of operation are sufficiently effective to secure fundamental sector transition and reform objectives. It therefore measures the state of play in the sector (such as level of approximation of local laws/regulations to recognised international standards, the level of implementation of regulatory reforms, etc.).

Through the Assessment, the EBRD also wishes to be in a position to assess the effectiveness of its technical cooperation efforts (in those countries where it has been active in this respect) as well as identifying new or additional technical cooperation that could be provided in furtherance of the Bank’s mandate.

The specific objectives of the Assessment are:

- To define a best practice legal and regulatory framework that applies to a modern, competitive market for electronic communications.
- To compare the legal framework that exists in each participant country with defined best practice.
- To compare the implementation of the regulatory framework in each participant country with defined best practice.
- To produce a measure of legal/regulatory risk faced by investors in each country.
- To make recommendations that will move countries closer to a best practice legal and regulatory framework for the electronic communications sector.
1.4 The electronic communications sector

The focus of this report is the market for electronic communications, which includes fixed-line telephony and mobile communications services. The market also now includes broadband services, which provide consumers with digital capacity that enables voice, internet and broadcast services to be delivered to fixed connections (fixed broadband) and mobile users (mobile broadband).

The legal and regulatory frameworks which relate to the market that supplies and uses these services have undergone significant changes since the latter part of the 20th century. These changes have been driven by the rapid development of digital technologies and the internet. The traditional telecommunication and broadcast media services markets are being transformed by the influences of these technological developments. In particular, the traditional model of state-owned monopoly telecommunications and broadcasting supply has been largely replaced by the more sophisticated competitive supply of fixed and mobile services to meet the more sophisticated consumer demands for better quality services, mobility and higher speed of internet access.

The speed at which the electronic communications markets have been transformed has varied from country to country. One of the significant determinants of the speed of transition from monopolistic to competitive markets has been the progress made by each country’s policy makers in adopting the enabling legal and regulatory frameworks. To put in place modern digital network infrastructures and competitive service delivery, the legal and regulatory frameworks need to be enablers, not barriers to investment. Investors, whether existing operators or new market entrants, require confidence in the legal and regulatory framework to induce them to invest. Since the wave of privatisations across the electronic communications sector in the 1990’s and 2000’s, the majority of investments in the sector are now private sector investments.

This Assessment takes an investor’s perspective in examining the legal and regulatory framework for the electronic communications sector in each of the 31 participant countries. Where a country has a framework that is close to best practice, investors can be confident in the legal and regulatory conditions. With respect to these conditions, an investor can consider the electronic communications market to be low risk. Where the regulatory framework differs significantly from best practice, investors will be less confident and the risk will be higher, so the resulting investment is likely to be lower.

The results of the Assessment apply only to the electronic communications markets and in the context of the perceived investment risk in the legal and regulatory conditions applying to those markets.
2: ASSESSMENT METHODOLOGY

2.1 Taking an investor's view

The Assessment has studied the legal and regulatory conditions applying to the electronic communications sector in a wide variety of national markets. Investors take into account many factors before they decide whether to invest or not. This Assessment looks only at those factors which could influence their view on the legal and regulatory risk evident in the electronic communications sector in each country.

To conduct the Assessment, the legal and regulatory conditions have been examined in comparison with what investors would generally consider to be legal and regulatory best practice applying to the electronic communications sector. This approach attempts to put a value on how much legal and regulatory risk they face in each country, compared to a country where a best practice legal and regulatory framework is applied.

The countries with the highest implementation of best practice in the electronic communications sector present the lowest legal/regulatory risk to investors in that sector. The countries where best practice is not generally evident present the highest legal/regulatory risk to investors.

This section of the Assessment report provides a definition of legal and regulatory best practice in the electronic communications sector. It also describes the methodology for assessing the evidence of implementation in each country. In total there were eight components of legal evidence that were sought and five components of regulatory evidence, which together were used in the overall legal/regulatory risk Assessment.

This section also describes how numerical values have been placed on the degree of compliance of the country with the various benchmarks of legal and regulatory best practice, taking account of the eight legal components and five regulatory components. Lastly, the methodology describes how the various components have been weighted and combined to produce the overall legal/regulatory risk result.

2.2 What is legal and regulatory best practice in today's electronic communications sector?

The starting point for the legal and regulatory benchmarks used in the Assessment is the World Trade Organisation (WTO) 1997 reference paper, which was used by WTO members to open their markets for telecommunications services. In addition to the WTO principles, the next descriptor of legal/regulatory best practice is the found in the European Union (EU), whose member states have implemented a harmonised and effective legal and regulatory framework since 1998 based on the 1997 WTO open market principles.

Competitive markets now exist within each of the EU's current 27 member states.

The EU's legal and regulatory framework (or “acquis communautaire” - the accumulated legislation, legal acts and court decisions that constitute the body of European Union law) has been adopted in the legal acts in each EU member state.

Many non-EU countries have also decided to implement the EU framework. Croatia has already fully adopted the framework in full preparation for its anticipated entry into the EU in 2013. Another six countries included in the Assessment are either EU candidate or potential EU candidate countries (Albania, Bosnia and Herzegovina, FYR Macedonia, Montenegro, Serbia and Turkey). Their progress towards full implementation is monitored regularly by the EU’s executive arm, the European Commission. The latest progress report “Supply of services in monitoring regulatory and market developments for electronic communications and information society services in Enlargement Countries” has been used extensively in this Assessment because it describes all the detailed evidence of implementation across a range of legal and regulatory developments in all the EU candidate and potential candidate countries.

In some other countries, notably Armenia, Azerbaijan, Egypt, Georgia, Jordan, Moldova, Morocco, Tunisia and Ukraine, some progress towards the implementation of the EU legal and regulatory framework has
been initiated including actions resulting from various bi-lateral/multi-lateral initiatives, namely the European Neighbourhood Policy\(^8\) (ENP) and Eastern Partnership\(^9\) (EaP).

In the remaining six countries of this Assessment (Kazakhstan, Kyrgyz Republic, Mongolia, Russia, Tajikistan, Turkmenistan) some features of legal and regulatory best practice have been adopted. For example, Russia has recently made significant amounts of spectrum available in order for competing operators to develop the market for high speed broadband services. In all countries, there are some features of best practice implementation, for example in ensuring that competing operators interconnect. However, many components of legal/regulatory best practice are not fully implemented in these countries. Notably absent are:

- A modern system of market definition and market analysis leading to proportionate market remedies for lack of competition.
- A modern cost basis for interconnection and infrastructure access charges.
- The removal of regulatory licensing barriers when there are no scarce resources involved.

The same evidence of progress towards legal/regulatory best practice for the electronic communications markets has been collected for all the countries of this Assessment.

### 2.3 Definition of best practice for legal/regulatory principles and implementation in the electronic communications sector

The Assessment considers key components of the electronic communications legal and regulatory framework of the countries studied as measured against the same key components of international best practice. The context of the Assessment is the overall legal and regulatory risk faced by investors in the sector. This focus means that the key components selected are related to the reliability of the legal and regulatory framework (in terms of legal and regulatory certainty and risk) as perceived by investors. In their eyes, the legal and regulatory framework needs to provide an enabling, not a restricting environment. The framework needs to provide ease of market entry, with no artificial legal/regulatory barriers. The framework also needs effective competitive safeguards to ensure that incumbent dominant players do not have more rights than new entrants and do not use their market position to limit consumer choice or to erect barriers to competitors.

Legal and regulatory best practice therefore supports investment and competition. The WTO Reference Paper provides the starting principles for a best practice legal framework. The WTO framework has been chosen because nearly all the countries in the Assessment are members (or candidate members) of WTO and are therefore committed to open and liberalised markets.

The EU electronic communications framework provides the key features of best practice for the legal and regulatory implementation of the WTO principles. The EU framework has been chosen because the significant majority of the countries assessed have already adopted, or are making progress towards adopting it.

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8 [http://ec.europa.eu/world/enp/index_en.htm](http://ec.europa.eu/world/enp/index_en.htm)  
The WTO principles relating to the electronic communications sector

In 1997 a total of 70 countries agreed to open their markets for basic telecommunications services in a multilateral agreement. Since then, more countries have become WTO Members and/or signatories to the agreement on basic telecommunications services. The agreement itself is complex and allows each signatory to define its own set of commitments, for example, which services can be open for international competition, the categories of business models that would be allowed and whether to extend these commitments to other countries or not, through “most-favoured-nation” clauses.

The WTO agreement also includes provisions for how this international competition should be regulated. This is done through a “Reference Paper”, which defines a set of regulatory principles for the establishment of fair market conditions. In the context of the trade negotiations that took place, the countries were given the choice of making a formal commitment to accept the Reference Paper. Most WTO Members made this commitment. From a legal point of view, a commitment to the Reference Paper means that it is part of the international treaty and therefore binding on the WTO Members.

The WTO Reference Paper itself is a short document that sets out rather broad and general principles that have achieved a high degree of consensus. Its main points are:

**Competitive safeguards**
- Prevention of anti-competitive practices.
- Safeguards, including with respect to the use of consumer and technical information and the removal of anti-competitive cross subsidies.

**Interconnection**
- Interconnection to be ensured.
- Public availability of the procedures for interconnection negotiations.
- Transparency of interconnection arrangements.
- Interconnection dispute settlement.

**Universal service**
- Obligations that are transparent and not anti-competitive.

**Public availability of licensing criteria**
- Timely decisions and reasons for denial.
- Publicly available licence conditions.

**Independent regulators**
- Independence from operators.
- Impartial decisions and procedures.

**Allocation and use of scarce resources**
- Any procedures for the allocation and use of scarce resources, including frequencies numbers and rights of way, will be carried out in an objective, timely, transparent and non-discriminatory manner.
- Published spectrum allocations.

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10 The full name of the agreement is Scheduled Commitments on basic telecommunications services annexed to the Fourth Protocol of the GATS (15 February 1997)
11 [http://www.wto.org/english/tratop_e/serv_e/telecom_e/tele_e.htm](http://www.wto.org/english/tratop_e/serv_e/telecom_e/tele_e.htm)
The EU framework for electronic communications

Technology and market developments, particularly in the latter part of the 20th century in electronic communications, gave rise to the development of a new regulatory framework within the EU. Its main aim was to strengthen market competition by making market entry easier and by stimulating investment in the sector. In 1998 all EU member states brought into force European legislation to liberalise their electronic communications markets. Since 1998 a number of additions to the EU framework have been made to improve competition and investment and to encourage a single European market. These measures (which have the status of legal directives that have to be adopted by all member states) have collectively been referred to as the “EU 2003 regulatory framework for electronic communications” and the “EU 2009 regulatory framework for electronic communications”.

The EU 2003 regulatory framework for electronic communications consists of five directives and provides the legal and regulatory basis for the development of competitive markets for telecommunications services. The five directives are:

**Framework Directive 2002/21/EC** contains the legal basis for independent regulatory authorities which regularly analyse the electronic communications markets, based on the principles of European competition law, and adopt necessary remedies when they identify market failures.

**Access Directive 2002/19/EC** describes in more detail the obligations that national regulatory authorities may impose on operators with significant market power (SMP) to ensure competition. In particular, SMP operators can be required to grant access to their networks and services under non-discriminatory, transparent and cost-oriented conditions.

**Authorisation Directive 2002/20/EC** ensures that everybody can provide electronic communications networks and services without requiring a licence and without paying inappropriate fees or taxes. This framework of general authorisation ensures easy market access and creates a competitive environment.

**Universal Service Directive 2002/22/EC** ensures that a basic set of electronic communications services is available in the whole country, even where it would not be provided in an open and competitive market. This directive also contains many consumer protection provisions.

**Privacy and Electronic Communications (e-Privacy) Directive 2002/58/EC** protects the personal data of users and subscribers of electronic communications networks and services.

In 2009 the European Union amended the above directives, without changing the main objectives (directives 2009/136/EC and 2009/140/EC). The amended directives are collectively called the EU 2009 regulatory framework for electronic communications and include the following main reforms:

- The right of European consumers to change, in one working day, their fixed or mobile operator while keeping their old phone number.
- Better consumer information.
- Protecting citizens’ rights relating to internet access by a new internet freedom provision.
- New guarantees for an open and more “neutral” network.
- Consumer protection against personal data breaches and spam.
- Better access to emergency services and 112 emergency number.
- Greater independence for national telecoms regulators.
- A new European Telecoms Authority (called BEREC\(^\text{12}\)) that will help ensure fair competition and more consistency of regulation.
- New European Commission opinion on the competition remedies for electronic communications markets.
- Functional separation of operators as a remedy to overcome competition problems.
- Accelerating broadband access for all Europeans.
- Encouraging competition and investment in next generation access networks.

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Assessment methodology

Components of EU 2003 and 2009 Regulatory Frameworks\(^\text{13}\)

<table>
<thead>
<tr>
<th>EU 2003 Regulatory Framework</th>
<th>EU 2009 Regulatory Framework</th>
</tr>
</thead>
<tbody>
<tr>
<td>Framework Directive 2002/21/EC</td>
<td>Amended by:</td>
</tr>
<tr>
<td>Authorisation Directive 2002/20/EC</td>
<td></td>
</tr>
<tr>
<td>Universal Service Directive 2002/22/EC</td>
<td>Amended by:</td>
</tr>
<tr>
<td>Competition Directive 2002/77/EC</td>
<td>Not amended</td>
</tr>
<tr>
<td>Radio Spectrum Decision 676/2002/EC</td>
<td>Not amended</td>
</tr>
<tr>
<td></td>
<td>BEREC Regulation EC/1211/2009</td>
</tr>
</tbody>
</table>

2.4 Converting the best practice principles and frameworks into a set of assessment criteria.

The legal and regulatory principles and implementation frameworks of the WTO and EU have been referenced in this Assessment because they have been widely recognised as best practice. Nearly all the countries of the Assessment are WTO members or candidate countries and the majority have already adopted or taken steps toward the adoption of the EU regulatory framework.

Legislative benchmarks for best practice

The legislative benchmarks have been defined with reference to the WTO principles and the implementation experience of the EU regulatory framework.

There are eight key benchmarks used in the legal framework part of the Assessment, which are summarised in the table below. For each benchmark, the situation in each country is compared with legal best practice to provide a score. To make up the overall legal component of the Assessment, these individual scores are weighted by the percentage shown in the table.

These percentages have been chosen to reflect the importance attached to the benchmark by investors. For example, the legal requirement for a regulator to make independent decisions based on clear evidence-based market analysis is highly valued by investors, because it gives them confidence that the regulator is concerned only with the best interests of the market, not other political or bureaucratic interests. For this reason the components concerned with regulatory independence, market analysis and enforcement are given the highest ratings.

Legal benchmarks, weightings and components

<table>
<thead>
<tr>
<th>Weightings</th>
<th>Benchmarks</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>20%</td>
<td>Regulator independence and structure</td>
<td>Separation of policy, regulatory and operational functions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Structure and operation of the regulator</td>
</tr>
<tr>
<td>10%</td>
<td>Authorisation regime</td>
<td>Effective authorisation and licensing powers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Where relevant, includes interim provisions transitioning from old to new legislative (particularly licensing) framework</td>
</tr>
<tr>
<td>10%</td>
<td>Interconnection and infrastructure access</td>
<td>Well defined interconnect, access, facilities sharing, and unbundling rights and obligations</td>
</tr>
<tr>
<td>20%</td>
<td>Market analysis and enforcement</td>
<td>Appropriate market analysis and other processes for designation of</td>
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<tr>
<td></td>
<td></td>
<td>significant market power/dominance.</td>
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<tr>
<td></td>
<td></td>
<td>Effective powers to impose and enforce additional obligations on dominant</td>
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<tr>
<td></td>
<td></td>
<td>operators to prevent discrimination and abuse of dominance, including</td>
</tr>
<tr>
<td></td>
<td></td>
<td>appropriate tariff regulation and other remedies.</td>
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<tr>
<td></td>
<td></td>
<td>Effective dispute resolution powers and procedures</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sufficient powers for the regulatory authority to enforce the law, impose</td>
</tr>
<tr>
<td></td>
<td></td>
<td>fines or other effective penalties</td>
</tr>
<tr>
<td>10%</td>
<td>Spectrum management</td>
<td>Fully defined and effective spectrum management regime</td>
</tr>
<tr>
<td>10%</td>
<td>Universal service</td>
<td>Effective universal access/universal service powers and enabling framework</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Avoidance of competitive market distortions</td>
</tr>
<tr>
<td>10%</td>
<td>Consumer protection</td>
<td>Effective consumer protection provisions</td>
</tr>
<tr>
<td>10%</td>
<td>Numbering</td>
<td>Effective numbering administration</td>
</tr>
<tr>
<td>100%</td>
<td>Total weighting</td>
<td>The legal benchmarks together contribute 30% of the overall legal/regulatory risk assessment.</td>
</tr>
</tbody>
</table>

The legislative part of the Assessment is also intended to highlight situations where (as in many countries) the legislative regime lags behind the implemented regulatory environment in terms of alignment with international best practice. This typically occurs when national regulatory authorities or ministries have taken the lead in interpreting existing legislation (which can often be difficult and slow to amend) in a way that supports competition and market liberalisation and to promote higher investment in the sector.

The legal part of the Assessment is intended to provide a readable analysis that may be easily absorbed by investors, operators, international financial institutions, ministries, regulators and other key stakeholders.
Example of chart showing legal framework assessment results

Legal framework

Key: Extremities of the chart = International best practice
Subject country = Solid line
Regional average = Shaded area
Regulatory benchmarks for best practice

The regulatory benchmarks have been defined with reference to the WTO principles and the implementation experience of the EU regulatory framework. Firstly, it has been assumed in the Assessment that in every country the markets for electronic communications have already been legally liberalised. This assumption means that in the legal framework of the country there is already provision for the entry of competitors into the market for all electronic communications services, including the provision of a fixed-lines and local calls, national and international calls, mobile calls, leased lines, internet, broadband and broadcast services, all provided individually or in service bundles.

In some countries there are still some restrictions to what competitors can legally do, for example in some countries interconnection has to take place via a certain network operator. In other countries, international calls, or international internet links have to be routed via a single gateway or single operator, which negotiates the international arrangements. Where such examples of retained monopolies are still allowed in the law, the country can only achieve a low score on conformity to international best practice.

It is important to note that the regulatory part of the assessment is concerned only with the situation as it is found in practice. If there is a legal requirement that is not implemented by the authorities in a particular country, or not enforced properly, then the regulatory assessment is likely to be low.

A particularly important part of regulatory best practice is the implementation of ex-ante (anticipatory) measures to improve market competitiveness (for the benefit of consumers and suppliers in the future). This means that the regulator uses modern procedures to define and analyse relevant markets, based on evidence from the market. If this evidence leads to a finding that a particular operator or operators have significant market power, then the regulator should decide and implement proportionate market remedies (in the form of legal obligations on operators with significant market power) to ensure that this power is not used anti-competitively.

The EU regulatory framework includes best practices in the area of ex-ante regulation when applied specifically to relevant electronic communications markets. Best practice includes the enforcement of the market remedies expected by investors (in particular the competitive safeguards that ensure number portability plus wholesale infrastructure access, wholesale broadband access and local loop unbundling plus the cost-orientation of the charges for these wholesale services). These factors are included in the regulatory part of the assessment in the components concerned with market conditions for wired and wireless services.

The five key benchmarks used in the regulatory part of the Assessment are summarised below. For each benchmark, the situation in each country is compared with the components of the benchmark to provide a score. To make up the overall regulatory assessment, these scores are weighted by the percentage shown. These percentages have been chosen to reflect the importance attached to the benchmark by investors. For example, a very significant part of investment is currently occurring in services requiring frequency spectrum (including mobile services and fixed wireless services). This component (“market conditions for wireless networks and services”) is therefore given the highest weighting.
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Assessment methodology

Regulatory benchmarks, weightings and components

<table>
<thead>
<tr>
<th>Weightings</th>
<th>Benchmarks</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>15%</td>
<td>Sector organisation and governance</td>
<td>The structure of the electronic communications sector, including ownership, regulation funding and procedures.</td>
</tr>
<tr>
<td>30%</td>
<td>Market entry for wired networks and services (including licensing).</td>
<td>Ease of market entry by operators and service providers who base their services on metallic, as opposed to wireless (spectrum) based methods. The competitive conditions in the market - what the new entrant is and is not allowed to do.</td>
</tr>
<tr>
<td>35%</td>
<td>Market entry for wireless networks and services (including licensing/authorisations).</td>
<td>Ease of market entry by operators and service providers who base their services on wireless (spectrum) methods. This includes mobile services and fixed wireless services. The competitive conditions in the market - what the new entrant is and is not allowed to do.</td>
</tr>
<tr>
<td>10%</td>
<td>Fees and taxation on electronic communications services.</td>
<td>The types of payments required from operators/service providers to the regulator or ministry in order to start and continue providing their services.</td>
</tr>
<tr>
<td>5%</td>
<td>Progress towards implementation of Information Society.</td>
<td>The country's environment for conducting business and providing services electronically</td>
</tr>
</tbody>
</table>

100% Total weighting The regulatory benchmarks together contribute 70% of the overall legal/regulatory risk assessment

2.5 Putting the legal and regulatory scores into an overall risk assessment

The eight components of the legal part of the assessment and five components of the regulatory part of the assessment are combined to form an overall legal/regulatory risk assessment. This produces an overall score, which aims to reflect the relative legal/regulatory risk faced by investors in the electronic communications markets in each country.

Calculation of the overall legal/regulatory risk index

<table>
<thead>
<tr>
<th>Weighting</th>
<th>Score used</th>
<th>Key Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>30%</td>
<td>Legal assessment score</td>
<td>Legal framework</td>
</tr>
<tr>
<td>10%</td>
<td>Regulatory assessment score 1</td>
<td>Sector organisation and governance</td>
</tr>
<tr>
<td>20%</td>
<td>Regulatory assessment score 2</td>
<td>Market conditions for wired services</td>
</tr>
<tr>
<td>25%</td>
<td>Regulatory assessment score 3</td>
<td>Market conditions for wireless services</td>
</tr>
<tr>
<td>10%</td>
<td>Regulatory assessment score 4</td>
<td>Fees and taxation</td>
</tr>
<tr>
<td>5%</td>
<td>Regulatory assessment score 5</td>
<td>Information society progress</td>
</tr>
<tr>
<td><strong>Total 100 %</strong></td>
<td><strong>Combined legal/regulatory risk</strong></td>
<td><strong>8 legal components and 5 regulatory components</strong></td>
</tr>
</tbody>
</table>
Example of chart showing overall legal/ regulatory risk scores

Overall legal/ regulatory risk

Key: Extremities of the chart = International best practice
Subject country = Solid line
Regional average = Shaded area

Overall legal/ regulatory risk = 66 (0 is the highest risk, 100 is the lowest)
2.6 Information sources

The Consultant has drawn upon a variety of sector data and information, both inside and outside each country. Some background information was readily available and easily accessible for desk research. These sources included:

- The European Commission
- The International Telecommunications Union
- EBRD.

Together with the web sites of:

- National regulatory authorities
- National governments and their constituent ministries
- Official national data sources
- Local technical and general news and industry web sites
- Published operating company reports
- Other international organisations and consultancies.

For the Group A countries (Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Mongolia, Russia, Tajikistan, Turkmenistan, Ukraine, Georgia and Mongolia) and Group C countries (Egypt, Jordan, Morocco and Tunisia), we have relied on questionnaires sent to the national regulatory agencies in each country, backed up by discussions with ministries, national regulatory agencies and market participants.

For the Group B countries (Albania, Bosnia and Herzegovina, Croatia, FYR Macedonia, Montenegro, Serbia and Turkey) the required data was collected alongside the parallel European Commission project “Supply of Services in Monitoring Regulatory and Market Developments for Electronic Communications and Information Society Services in Enlargement Countries.” This project was awarded to Cullen International in 2010. The latest monitoring report was published in July 2012 on Cullen International’s web site.

For the Group D countries (Bulgaria, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic, Slovenia) we have relied on the various reports issued by the Body of European Regulators for Electronic Communications (BEREC) and The Communications Committee (COCOM), plus the official web sites of the national regulatory agencies in each country.

Where possible, face-to-face meetings were arranged with the national regulatory agencies in each country to add clarity to the understanding of the legal and regulatory frameworks and the status of implementation of key legal/regulatory features (such as number portability, access to infrastructure, interconnection arrangements, market analysis progress, availability of spectrum for sector development and status of information society implementation). Wherever possible, existing service providers were consulted to gauge their confidence in the applied legal and regulatory frameworks, and to assess the current investment priorities in the sector.

The specific information used in the assessment (for all countries) was as follows:

- The existing primary legislation current and published at the end of 2011, with amendments, where available.
- The internet usage data from the 2010 ITU World Telecommunication/ICT Indicators database.
- Any secondary legislation relevant to the sector and published on the national regulatory agencies’ web sites, or made available directly from the sector regulator.
- The responses to the regulatory questionnaire (where returned) and/or the answers given during discussions with the regulator during face-to-face meetings or by email and/or telephone conversation.

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14 www.cullen-international.com/other-services/studies.htm?lng=en (see Enlargement countries telecommunications monitoring – 3, 2011-2013.)

15 Efforts were made to obtain relevant amendments to national legislation impacting the sector, however in some cases all such amendments were not available or it was not possible to confirm that amendments obtained were comprehensive. In some cases official translations of legislation and regulations were not available so unofficial translations were used.
Assessment methodology

A draft summary report for each country was provided to the relevant national regulator for review and comment. Where comments were received from the national regulator on the draft report for their country, these comments were taken into consideration in finalising this report.

2.7 The regulatory assessment questionnaire

A questionnaire was designed by the Consultant, for completion by the national regulatory agencies in those countries where the required information on the implementation of the regulatory framework was not available directly from the national regulatory agency web sites, or from up-to-date reports produced by BEREC, the European Commission or Cullen International. This regulatory questionnaire contained a total of 65 questions seeking two types of data:

- Simple yes/no responses (so that the absence or presence of a particular condition could be determined, for example number portability).
- Descriptive data about the market and its regulation (for example, the level of regulated interconnection charges).

2.8 Data consistency

The data used in this assessment can assume to be (unless otherwise stated):

- For items of quantitative data (for example market penetration figures) the data are correct at the end of December 2011.
- For descriptive data about the implementation of a key regulatory measure, for existence of number portability) the data are correct up to the end of June 2012.

Special note on mobile broadband penetration

At present there is no consistent measurement method applied to mobile broadband penetration across all the participant countries. The standard definition used in the EU is the number of active users with data subscriptions separate from the voice subscription (or part of a bundle containing paid voice and data usage). In some Group A countries, the reported number of mobile broadband users is simply the number of subscribers who are served by broadband enabled technology (for example 3G), regardless of whether the subscribers have separate or bundled data subscriptions. Typically, when changing networks from GSM to 3G service capability, the service providers report that around 25 to 35 per cent of their existing voice subscribers take up a separate or bundled data subscription.

To ensure comparative data for mobile broadband subscribers, where the EU definition is not used by a country when reporting its mobile broadband subscribers, it has been assumed that the number of mobile broadband subscribers is 25 per cent of the total number of mobile subscribers being served by 3G networks.
3: ASSESSMENT RESULTS

Following the collation and analysis of collected data, the results were assembled into two comparator sets: firstly, sub-regional comparison, dividing the 31 countries into 4 sub-regional groupings; and secondly, full cross country comparison, comparing all 31 countries individually against international best practice and against each other. The results of the sub-regional comparison can be found immediately below, while the full cross country comparison can be found towards the end of the Assessment.

The four sub-regional groupings used for regional comparison immediately below are:

- **Group A** countries comprise Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Mongolia, Russia, Tajikistan, Turkmenistan and Ukraine.
- **Group B** countries comprise Albania, Bosnia-Herzegovina, Croatia, FYR Macedonia, Montenegro, Serbia and Turkey.
- **Group C** countries comprise Egypt, Jordan, Morocco and Tunisia.
- **Group D** countries comprise Bulgaria, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic and Slovenia.

### Group C countries

#### Regional overview

The four countries assessed (Egypt, Jordan, Morocco and Tunisia) have a total population of nearly 130 million (2010), with Egypt the largest (81 million) and Jordan the smallest (6 million).

Penetration of telecommunications services is low by EU standards:

- Average fixed-line penetration is around 11/100 population in Egypt, Morocco and Tunisia, and only 7/100 population in Jordan (the EU average is 40/100 population).
- Mobile subscriber penetration is 105/100 population, with Egypt the lowest at 99 and Jordan the highest at 120 (the EU average is 127/100 population).
- Broadband services are still at an early stage, with the average levels of penetration of fixed and mobile broadband connections only one tenth of the average EU levels.

During the last eight years, all four countries have passed legislation that allows the full liberalisation of the sector, most recently in Tunisia in 2009. This means that there is a legal basis for new entrants in all markets, but in practice, the countries still have dominant fixed network incumbent operators, all of which have some remaining state interest.

Mobile communications is the main competitive growth market, with three licensed mobile operators in each country, operating with a mixture of state and foreign ownership.

Broadband communications are still at an early stage, but show the greatest growth and promise. Voice revenues have already stagnated.

16 In Jordan, the Social Security Corporation, which is independent of State funds, owns 29 per cent of Jordan Telecom.
### Overall market description

<table>
<thead>
<tr>
<th></th>
<th>Egypt</th>
<th>Jordan</th>
<th>Morocco</th>
<th>Tunisia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>81.1m</td>
<td>6.2m</td>
<td>31.9m</td>
<td>10.5m</td>
</tr>
<tr>
<td>Remaining state ownership in fixed operator</td>
<td>80%</td>
<td>29%</td>
<td>33%</td>
<td>65%</td>
</tr>
<tr>
<td>Date of sector liberalisation</td>
<td>2005</td>
<td>2004</td>
<td>2006</td>
<td>2009</td>
</tr>
<tr>
<td>Market share of fixed incumbent in the fixed market</td>
<td>Over 95%</td>
<td>Over 95%</td>
<td>99%</td>
<td>97%</td>
</tr>
<tr>
<td>Number of mobile operators</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Penetration of fixed-lines per 100 population</td>
<td>11.1</td>
<td>6.8</td>
<td>11.2</td>
<td>11.9</td>
</tr>
<tr>
<td>Penetration of mobile subscribers per 100 population</td>
<td>99</td>
<td>120</td>
<td>114</td>
<td>111</td>
</tr>
<tr>
<td>Penetration of fixed broadband per 100 population</td>
<td>2.1</td>
<td>4.7</td>
<td>1.8</td>
<td>5.1</td>
</tr>
<tr>
<td>Penetration of mobile broadband per 100 population</td>
<td>2.9</td>
<td>5.0</td>
<td>8.1</td>
<td>1.7</td>
</tr>
<tr>
<td>Overall legal/ regulatory risk index (100 = lowest risk)</td>
<td>46</td>
<td>70</td>
<td>69</td>
<td>55</td>
</tr>
</tbody>
</table>
100 is the lowest risk, zero is the highest

[Source: EBRD analysis]

The Overall Legal/ Regulatory Risk Index is a summation of a number of components, as defined in section 2 of this report:

1) Legal Framework. This component assesses if the degree of conformity with a modern legislative framework for an efficient competitive market for electronic communications. (Weighting = 30 per cent.)

2) Sector organisation and governance. This relates to the structure of the electronic communications sector including ownership, regulation and the main regulatory procedures. (Weighting = 10 per cent.)

3) Market conditions for wired networks and services. This relates to the market entry conditions faced by operators and service providers who base their services on metallic, as opposed to wireless (spectrum) based methods. It also explores the competitive safeguards in the market - what the new entrant is and is not allowed to do. (Weighting = 20 per cent.)

4) Market conditions for wireless networks and services. These relate to market entry by operators and service providers who base their services on wireless (spectrum) methods. This includes mobile services and fixed wireless services. It also explores the competitive safeguards in the market - what the new entrant is and is not allowed to do. (Weighting = 25 per cent.)

5) Fees and taxation on electronic communications services. This relates to the types of payments required from operators/ service providers to the state and/or regulatory agency in order to start and continue providing services. (Weighting = 10 per cent.)

6) Progress towards implementation of Information Society. This relates to the country’s environment for conducting business and providing services electronically. (Weighting = 5 per cent.)
Market commentary

The mobile sector is the most competitive in this region, with three licensed operators in each country. There is still some state ownership of companies, particularly in Tunisia where the state has part-ownership in all three mobile operators and in Egypt where the state owns 80% of the incumbent fixed and mobile company. 3G services have been launched in all four countries (Egypt being one of the first African countries to launch 3G in 2007). Mobile data services are showing very high growth, outselling fixed broadband, with over 4 million mobile data subscribers in 2011, compared with around 2.5 million fixed broadband connections. Overall penetration of broadband is highest in Jordan and Morocco at around 10/100 population and lowest in Egypt at 5/100.

The governments of all four countries are supporting “Information Society” policies, with various degrees of success. Morocco promotes an innovative “pay or play” scheme to encourage operators to invest in rural broadband networks. The scheme is aiming to bring service to 2 million population in rural areas where there has previously been no telecommunications coverage (see Morocco Case Study “Investing in rural areas”. Tunisia and Egypt have established techno-parks, with some success in encouraging inward investment by ICT sector companies. Jordan’s National Broadband Network aims to provide a country-wide fibre infrastructure, though this has stalled, with only one-third of the planned investment completed. The Jordanian government is currently understood to be examining options by inviting private investors to participate in the completion of the scheme.

Some regulatory reforms to the sector have already been introduced in all four countries, including movement towards simpler licensing procedures (although none of the countries has yet implemented the EU’s more liberalised market entry conditions).

The main liberalising steps so far across the region are:

- All four countries allow any technology to be used when a licence is granted (except for fixed services in Egypt).
- Access to public and private rights of way appears reasonable in Jordan, Morocco and Tunisia, but not yet in Egypt.
- Passive infrastructure access (for example access to ducting) is mandated in Jordan and Morocco, but is not clear in Egypt or Tunisia.
- New entrant operators can gain access to existing international gateways and negotiate their own international settlement deals for voice and data traffic (although in Egypt this needs a separate licence with high fees).
- Spectrum is generally granted on a first-come, first-served basis, or by open and transparent public auction without undue political interference.

None of the countries has yet allowed spectrum holders to trade their holdings without the involvement of the relevant spectrum agency. Only in Morocco has the incumbent fixed operator completed the rebalancing of its retail telephony tariffs. Elsewhere the artificially low tariff charged for a basic fixed-line represents a significant barrier to competitors entering the fixed telephony market.
## Conditions for market access

<table>
<thead>
<tr>
<th></th>
<th>Egypt</th>
<th>Jordan</th>
<th>Morocco</th>
<th>Tunisia</th>
</tr>
</thead>
<tbody>
<tr>
<td>General authorisation procedure</td>
<td>✘</td>
<td>✘</td>
<td>✘</td>
<td>✘</td>
</tr>
<tr>
<td>Technology neutrality for fixed licences</td>
<td>✘</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Technology neutrality for mobile licences</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Reasonable access to rights of way</td>
<td>✘</td>
<td>✔</td>
<td>✘</td>
<td>✔</td>
</tr>
<tr>
<td>Infrastructure sharing mandated</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Regulated interconnection charges</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Access to international gateways</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Spectrum granted on fair, transparent basis</td>
<td>✔</td>
<td>✔</td>
<td>✘</td>
<td>✘</td>
</tr>
<tr>
<td>Spectrum secondary trading allowed</td>
<td>✘</td>
<td>✘</td>
<td>✘</td>
<td>✘</td>
</tr>
<tr>
<td>Fixed-line retail tariff rebalancing completed?</td>
<td>✘</td>
<td>✘</td>
<td>✔</td>
<td>✘</td>
</tr>
</tbody>
</table>

Some progress has been made by the electronic communications market regulators in the region to introduce the normally expected competitive market safeguards:

- Number portability for mobile subscribers has been implemented in Egypt and Morocco and is planned in Jordan and Tunisia. Morocco has introduced fixed number portability.
- For the fixed broadband markets, all countries except Egypt have introduced the process for competitors to use the existing infrastructure via local loop unbundling and wholesale broadband access.
- Morocco and Tunisia have also encouraged competition in the voice markets by introducing carrier selection/pre-selection, with Jordan due to follow in 2012. Egypt only provides consumer choice via pre-paid calling cards.
- Reference interconnection offers are available in the region, except in Egypt.
- In mobile services, Egypt, Jordan and Morocco have mandated national roaming.
- None of the countries have yet introduced wholesale line rental for their voice markets.
Implementation of competitive safeguards

<table>
<thead>
<tr>
<th></th>
<th>Egypt</th>
<th>Jordan</th>
<th>Morocco</th>
<th>Tunisia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed number portability</td>
<td>✗</td>
<td>✗</td>
<td>✔</td>
<td>✗</td>
</tr>
<tr>
<td>Mobile number portability</td>
<td>✔</td>
<td>✗</td>
<td>✔</td>
<td>✗</td>
</tr>
<tr>
<td>Reference Interconnection Offer (Fixed)</td>
<td>✗</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Reference Interconnection Offer (Mobile)</td>
<td>✗</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Local loop unbundling</td>
<td>✗</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Wholesale broadband access</td>
<td>✗</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Carrier selection/ pre-selection</td>
<td>✗</td>
<td>✗</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Wholesale line rental</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✔</td>
</tr>
<tr>
<td>National mobile roaming</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✗</td>
</tr>
<tr>
<td>Mobile Virtual Network Operators</td>
<td>✗</td>
<td>✔</td>
<td>✗</td>
<td>✗</td>
</tr>
</tbody>
</table>

All four countries have great aspirations for “Information Society” status, with optimistic government policy statements (particularly in Morocco and Tunisia). The main aims in all four countries are to attract foreign ICT companies and to equip schools and business with information and communications technology.

All four countries have implemented some of the necessary enablers to implementation of an information society, but none of them have the full set of expected enablers and safeguards. In Egypt there is no legal basis for personal data protection and neither Egypt nor Tunisia have internationally recognised safeguards against cybercrime.

Implementation of information society safeguards

<table>
<thead>
<tr>
<th></th>
<th>Egypt</th>
<th>Jordan</th>
<th>Morocco</th>
<th>Tunisia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic internet freedom of expression</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Ease of setting up internet business</td>
<td>✔</td>
<td>✗</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Legal basis for electronic documents and signatures</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Legal basis for data protection</td>
<td>✗</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Safeguards against cybercrime</td>
<td>✗</td>
<td>✔</td>
<td>✔</td>
<td>✗</td>
</tr>
</tbody>
</table>

Regional summary and outlook

With the recent changes to governments in North Africa, there is much optimism that the necessary reforms to encourage information technology and investment in electronic communications will follow. All four countries have stated commitments to investor-friendly policies, especially towards ICT companies.
In the recently published Change Readiness Index\(^{17}\), Tunisia (second), Jordan (fourth) and Morocco (sixth) all rank highly out of the 60 developing countries listed. The index measures a country’s capacity to manage change and includes such factors as entrepreneurship, information and communication technology innovation, investment climate and economic diversification. Egypt was ranked 41st.

All four countries are active in regional discussion on the development of more competitive markets for electronic communications, generally aiming to harmonise with the EU regulatory framework. All countries are active in “twinning” projects on electronic communications regulation with EU countries.

Although the legal basis for competition is in place in all four countries, new entrants are discouraged by the power of the incumbent operators and by the absence of some of the normally expected competitive safeguards, as used in the EU regulatory framework. The main demand and investment is in the mobile markets, where very high prices have been paid by investors for establishing networks and launching 3G services. On the other hand, fixed access network investment remains low and few competitive licences have been taken up. Alternative fixed network investment is limited to the main cities. Fixed broadband access growth currently focuses mainly on the urban areas. The various government initiatives to increase fixed broadband penetration outside the cities will only succeed with substantial private sector involvement and investment. More private sector investment will require better market entry conditions and improved competitive safeguards.

Further investment in the mobile sector will be driven by the high demand for mobile data services.

For both fixed and mobile markets, the sector regulators have to be more committed to the implementation and enforcement of the normally expected market entry conditions and competitive safeguards. All the regulators in the region appear positive towards the EU regulatory framework but as elsewhere, meaningful implementation is often held back by the inertia of state control and market dominance by the incumbent operators.

Some progress has been made in implementing basic competitive safeguards, for example, Morocco has both fixed and mobile number portability in place. The sector regulators need to step up their market analysis responsibilities and enforce the necessary remedies to remove the adverse conditions for new entrants resulting from the dominance of the incumbent operators.

The primary legislation governing the electronic communications sector is under review in all the Group C countries. Should the new parliaments accept these changes, and the regulatory agencies gain a strengthened capacity to enforce the resulting improvements to competitive market conditions, then the growth opportunities for fixed and mobile broadband services are very good.

The following chart shows the internet usage (percentage of population who regularly use the internet) compared with the penetration of broadband services. The blue line is where, in country average terms, the internet users’ demand is fully met by broadband. All countries to the right of this line have latent demand for broadband services; that is where internet users have not yet been supplied with broadband.

\[^{17}\) 2012 Change Readiness Index kpmg.com/changereadiness
One way of estimating the potential for broadband growth and investment is by examining the extent of internet usage and comparing this with the penetration of broadband. All countries of the region have a significantly greater percentage of the population using the internet than the penetration rate of broadband (all countries are to the right of the diagonal line). In the chart above, the further towards the bottom right, the more potential there is for broadband growth. Morocco has the most pent-up demand for broadband service, with nearly 50 per cent of its population being regular internet users but only around 10 per cent connected via broadband. Similarly, there is significant latent potential in the other three countries. All countries have a significant gap with the EU, where on average, broadband subscriptions and penetration are significantly higher and the overall demand is being satisfied by broadband.
## Tunisia

### At a glance

<table>
<thead>
<tr>
<th>Market penetration</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>10.5m</td>
</tr>
<tr>
<td>Fixed penetration*</td>
<td>11.9</td>
</tr>
<tr>
<td>Mobile penetration*</td>
<td>111</td>
</tr>
<tr>
<td>Broadband penetration*</td>
<td>6.7</td>
</tr>
</tbody>
</table>

*Per 100 population

### Key Institutions

<table>
<thead>
<tr>
<th>Policy and legislation</th>
<th>Ministry of Information and Communications Technologies</th>
</tr>
</thead>
<tbody>
<tr>
<td>National regulatory authority</td>
<td>L’Instance Nationale des Télécommunications</td>
</tr>
</tbody>
</table>

### Market access

| General authorisation | ✔
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Technological neutrality</td>
<td>✔</td>
</tr>
<tr>
<td>Rights of way</td>
<td>✔</td>
</tr>
<tr>
<td>Infrastructure sharing</td>
<td>✔</td>
</tr>
<tr>
<td>Granting of spectrum</td>
<td>✔</td>
</tr>
</tbody>
</table>

### Competitive safeguards

| Number portability | ✔
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Interconnection offers</td>
<td>✔</td>
</tr>
<tr>
<td>Wholesale broadband offers</td>
<td>✔</td>
</tr>
<tr>
<td>Mobile national roaming and MVNO</td>
<td>✔</td>
</tr>
</tbody>
</table>

### Information society

<table>
<thead>
<tr>
<th>Internet penetration per 100 population</th>
<th>36.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ease of setting up internet business</td>
<td>✔</td>
</tr>
<tr>
<td>Legal basis for electronic documents and signatures</td>
<td>✔</td>
</tr>
<tr>
<td>Safeguards against cybercrime</td>
<td>✔</td>
</tr>
</tbody>
</table>
Market liberalisation

Tunisia’s legal framework for the sector has provided a formal basis for a competitive market for mobile communications since 2002 and for fixed electronic communications since 2009. Whilst there is competition in the mobile sector, the fixed market remains dominated by incumbent operator, Tunisie Telecom.

There are two fixed-line operators, three mobile operators and five internet access/service providers operating in Tunisia. In the fixed market, incumbent Tunisie Telecom, has a market share of about 96 per cent and fixed competitor Orange Tunisie maintains a market share of around 4 per cent. In the mobile sector, Tunisiana holds a 54 per cent market share while Tunisie Telecom (Tunicell) and Orange Tunisie have market shares of 37 per cent and 9 per cent respectively.

The mobile sector has experienced steady growth since the introduction of a second GSM network in 2002, operated under the name Tunisiana, owned by Kuwait’s Wataniya in which Qatar Telecom (Q-Tel) holds a majority stake. France Telecom-owned Orange entered the market as the second fixed-line and third mobile operator in 2010 and launched Tunisia’s first commercial 3G mobile service, followed by Tunicell (Tunisie Telecom’s mobile arm) in 2011. The mobile market is expected to deliver significant growth to the broadband market by taking broadband internet access to a wider part of the population. 3G mobile broadband pricing is designed to compete head-on with Tunisie Telecom’s fixed broadband service, which up to now has dominated the internet access market.

Competition between internet service providers has led to relatively low broadband prices in the market. The previous government encouraged and promoted internet use generally, but at the same time kept tight control by restricting access to certain web sites. Laws supporting e-commerce and digital signatures have been passed, which have led to one of the most active e-government and e-commerce sectors in Africa. A basic fixed broadband connection (1Mbps/sec.) costs around €13 per month, excluding voice over internet service.

At the end of December 2011 there were 1.21 million fixed subscriber lines (11/100 population) and 12.39 million mobile subscriptions (111/100 population). Broadband has attained 604,102 fixed subscriptions (5/100 population) and 254,145 mobile subscriptions (2/100 population).

Although allowed by legislation, there are no triple-play offerings in the market in practice.

Chart 1: Market penetration of main services per 100 population in Tunisia, compared with the Group C regional averages

![Chart 1](chart.png)

**Tunisia: Market penetration**

- **Fixed**
- **Mobile**
- **Broadband**

Group C average is for Egypt, Jordan, Morocco and Tunisia.
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Tunisia

Legal framework

The telecommunications sector in Tunisia operates within a legislative framework established by Law 1/2001 (as amended), various Presidential decrees and Ministerial Orders. L’Instance Nationale des Télécommunications (INT) is the regulator for the sector.

Several important components of the Tunisian legislative framework incorporate supportive aspects of best practice, including interconnection and infrastructure access, dispute resolution, consumer protection and numbering administration. However, the numerous legal instruments governing the sector, such as Law 1/2001 (with a series of amendments) and the many decrees that comprise the framework for the sector can be seen as overlapping and occasionally conflicting, with a lack of clarity on some issues. A new Law on Electronic Communications, to incorporate (and update) the provisions of Law 1/2001 and relevant decrees, would be welcome in order to continue the liberalisation of the Tunisian sector and support recent technological advances (for example, with respect to wireless communications).

Other components of the Tunisian legislative framework, while not fully aligned with best practice, exhibit continued progress through successive amendments to Law 1/2001 and various decrees over the past decade, for example to clarify that private internal networks are not subject to licensing, to clarify network access and to establish the methodology for cost accounting. However, some functions typically assigned to a national regulator in other countries are exercised in Tunisia by the Ministry of Information and Communications Technologies, including licensing and spectrum administration (via the National Frequency Agency). The use of an individual licensing regime, instead of the general authorisation and notification framework used in best practice, is also a notable deficiency compared with best practice.

Notable areas of relatively close compliance with best practice include:

- The interconnection and access regime, which requires that operators file Reference Interconnection and Access Offers.
- INT’s mandating of the use of long-run incremental cost methodology by operators to set prices for wholesale services (under its authority to set costing methodology).
- A dispute resolution regime under which requests related to interconnection, local loop unbundling, physical collocation and common use of telecommunications infrastructure may be brought before INT by any affected party.

The law contains limited specific provisions regarding consumer protection. However, the law is supplemented by other provisions and is further supported by the authority of INT to approve the model service agreement used by each operator, which combines to provide a level of protection close to best practice.

INT is authorised to conduct market studies and introduce measures to guarantee effective competition; however, limited guidance is provided for the conduct of the market analysis and no definition of significant market power is provided. Remedies provided in Law 1/2001 and related decrees typically can be applied to all operators, not only to those determined to be dominant.

The Minister of Information and Communications Technologies approves the National Frequency Plan. This plan is managed, administered and monitored by the National Frequency Agency, “subject to the supervision of the Ministry of Information and Communications Technologies”. INT, the regulator, has no role in spectrum administration. Although best practice does not require that the regulator be responsible for spectrum administration, such a lack of clear separation between spectrum policy and regulatory functions in other countries has often delayed spectrum assignments for new entrants and new technologies. Typically, the national regulator should be responsible for administration and implementation of spectrum policy.

The Ministry also establishes the National Numbering Plan, while INT manages numbering and makes assignments. Although INT’s practice is to act transparently and to conduct consultations, there is no legal requirement that INT do so. INT is authorised to impose fines of up to 1 per cent of annual turnover, which are insufficient to be meaningful to large operators. INT decisions may be suspended upon application to court as part of an appeal of INT’s decision.

The law provides a universal service obligation; however, INT has no role in universal service and no provisions have been established to guide the selection of universal service operators. Compensation to operators may be granted by the State “in special cases” with no requirement that the regulator first determine that the net cost represents an unfair burden. The decree establishing the list of universal services and the maximum rates applicable has not yet been adopted. There is no universal service fund.
The legal framework defines procedures, conditions and time frames for obtaining rights of way. Tunisia has a country-based equipment approval regime, requiring certification of all terminal equipment and related equipment by the Tunisian Centre d’Étude et Recherche de Télécommunications.

**Chart 2: Comparison of the legal framework for telecommunications in Tunisia with international practice and regional performance**

**Tunisia: Legal framework**

![Diagram showing various elements of the legal framework with ratings and comparisons]

Key: Extremities of the chart = International best practice
Tunisia= Solid line
Regional average = Shaded area

**Sector organisation and governance**

The Tunisian State owns part of three operators, with a 65 per cent stake in Tunisie Telecom, 51 per cent in Orange Tunisie and 25 per cent in Tunisiana. The regulatory regime has provisions for better competitive safeguards for new entrants, but many of these requirements appear to remain unimplemented. In practice Tunisie Telecom, the fixed-line incumbent, remains a near monopoly in the fixed market. The company was partly privatised in 2006 when a 35 per cent stake was sold to Dubai-based Tecom and DIG. Tunisie Telecom also operates a mobile network under the name Tunicell. The third mobile operator (which is also the second fixed network operator) is owned by France Telecom’s Orange.

The Ministry of Information and Communications Technologies has overall responsibility for the electronic communications sector. There is no published policy statement defining the key targets for the sector, although the overall intention is to reinforce the powers of the regulator, and to create a sustainable competitive telecommunications market.

The sector regulator INT was established in 2001 and regulates telecommunications and internet services. Some functions typically held by a national regulator are still exercised by the Ministry of Information and Communications Technologies, such as licensing, while spectrum management and administration is carried out by the National Frequency Agency. INT is governed by rules on independence, transparency, consultation and avoidance of conflict of interest. In practice, the INT remains under the authority of the Ministry and has poor enforcement powers. The Ministry appears to intervene in many INT’s areas of responsibility and still controls or supervises governmental agencies that are in charge of spectrum regulation, electronic certification and equipment control and certification. Notably, INT does not appear to have access to the necessary information to regulate the market. For example, INT does not receive costs and tariff information from operators. INT decisions are appealable to the Court of Appeal of Tunis...
Tunisia

Tunisia has been a member of the WTO since 1995 and is therefore committed to market liberalisation. It is also a signatory to other regional and bilateral agreements including membership of the Arab regulators network (AREGNET) Arab spectrum management group (ASMG) and the Euro-Mediterranean regulators group (EMERG).

Regulatory conditions for wired networks

There is currently no general authorisation mechanism in place, although a working group has reportedly been created to propose solutions in this area, based on the EU regulatory framework. Notwithstanding the absence of general authorisations, however, licences issued are now “global” in nature (for example, integrated fixed, mobile 2G/3G and internet) and technologically neutral.

While the procedures for obtaining rights of way on public and private property are set out in legislation, they do not seem to have been applied in practice.

Access to existing infrastructure is regulated, with Tunisie Telecom obliged to offer access to all its active and passive infrastructure elements. Its most recent interconnection offer includes access to ducts, buildings (co-location), leased lines, optical capacity and copper access lines. However, in practice, Tunisie Telecom operates all the access lines, reportedly does not offer the sharing of its infrastructure, nor wholesale voice, nor wholesale broadband services. Orange Tunisie (the second fixed-line operator) is understood to be negotiating with Tunisie Telecom for local loop unbundling, but reportedly without success so far. A decision by INT mandating wholesale broadband (bitstream) access to Tunisie Telecom’s network remains blocked in court, under appeal.

For basic services, the incumbent has not rebalanced tariffs so that it still offers a low-tariff line rental of around €1.5 per month. There is no number portability for fixed-lines and no carrier selection or carrier pre-selection. Tunisie Telecom’s interconnection offer allows full interconnection at all levels, including international traffic. Fixed call termination charges are regulated at €0.018 per minute, for single and double transit, peak and off-peak time, rates high by EU standards.

Regulatory conditions for services requiring frequency spectrum

Licences have been issued in accordance with the published frequency plan and are specific to GSM, 3G/UMTS and fixed wireless. Orange Tunisie is the exception as it acquired its “global” licence in 2009 through a beauty contest (paying €130 million). This provides an integrated licence covering fixed, mobile 3G and internet. A second ‘global’ licence is expected to be auctioned in 2012. Secondary spectrum trading is not allowed.

The analogue to digital broadcasting switchover process started in 2010 and completion is aimed for by 2014.

The mobile market is dominated by two operators (Tunisiana and Tunicell) who together have over 90 per cent market share. Further regulatory measures are needed to ensure that competition the mobile market becomes more effective. A programme to re-farm the GSM 900 MHz band for mobile broadband has been launched. There is no national mobile roaming mandated by law (although it is required in licence documents) and roaming prices are left to commercial negotiations. In practice, a requirement for national roaming is not enforced. Legislation does not allow the entry of virtual mobile operators in the market.

While a public consultation on mobile number portability was launched by INT in 2010, a decision on adoption on implementation has yet to be made. A single mobile termination rate is set for all mobile operators at €0.041 per minute, which is broadly equivalent to average the average EU rate.
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**Tunisia**

**Payments required from operators**

The full list of payments to be made by licensed operators of electronic communications networks and services is published on the Official Printing Office of Tunisia’s web site, but there is no guidance available to explain the system clearly.

The telecom law provides that the regulator INT is financially autonomous and is funded by the fees charged on operators for numbers and domain names, as opposed to an administrative-fee based system, imposed on licensed operators, more commonly seen in the EU system. Around €5 million is reportedly collected per year from operators, with any surplus (after INT’s expenditures are covered) being transferred to the government. A licence fee is also collected from operators, though this goes to the Ministry of Finance. Fees for frequency acquisition and yearly usage are collected by the Agence Nationale des Fréquences (ANF) on behalf of the government.

While the telecom law provides for universal service, the list of such services and the maximum rates payable for these services has not yet been adopted by the Ministry. Operators are not required to contribute to a universal service fund but they are subject to a tax of 5 per cent of its annual turnover to finance a “telecommunications development” fund.

**Information society safeguards**

There is almost no reference to the internet in the law, although this does not mean that the internet market is fully liberalised. Special permissions are required to operate an internet service provider (ISP) business and all internet service providers (Orange, Tunisiana and two independent players are obliged to use Tunisie Telecom’s fixed-lines). Further diminishing the competitiveness of the internet sub-sector is the fact that the Agence Tunisienne d’Internet (ATI), the national internet exchange point which supplies access and interconnection services to internet service providers, is 40 per cent owned by Tunisie Telecom. This national internet exchange point is the only allowed interconnection between internet service providers and to the rest of the internet.

Domain name registration is currently an activity that only the five internet service providers plus two other registrars (authorised by the Ministry in 1997 and 2000) are allowed to pursue. However, a consultation is ongoing with the aim to liberalise fully domain name registration.

There is a legal basis for electronic signatures and the protection of personal data, but the latter is not specific to electronic communications. Tunisia has not adopted the Council of Europe convention on Cybercrime. This matter is the responsibility of the Agence Nationale pour la Sécurité Informatique.

**Summary and outlook**

The conditions for full and fair competition are not yet fully in place in Tunisia. There is an established regulatory regime covering electronic communications and broadcasting, but its weak enforcement and monitoring powers mean that the incumbent fixed operator (Tunisie Telecom) still restricts the development of effective wholesale markets that would allow competitive use of the existing infrastructure. Other competition barriers also exist, in particular the fact that the Tunisian State owns part of the dominant fixed operator and the two largest mobile operators.

The competitive situation is better in the mobile sector with the added recent boost of competitive 3G services. Notably, neither number portability nor national roaming are in place, nor is there any provision for virtual mobile operators.

The government has adopted initiatives to promote a “digital culture” that covers all segments of society, including the teaching of computer science, establishing technology parks, and providing incentives for institutions and individuals to access the internet. There is a special policy to attract (foreign) investments; particularly into production sectors that create higher value for example biotechnology, electronics industries, health and environmental technologies. Tunisia is ranked second out of 60 emerging economies according to the Change Readiness Index18. This measures the forward-looking potential of the country to manage change, and includes factors such as economic diversification, entrepreneurship and investment climate.

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18 KPMG 2012 Change Readiness Index kpmg.com/changereadiness
Tunisia

At the regulatory level, the enforcement powers and implementation capacity of the regulator need to be significantly strengthened. There have been announcements in this respect by the government, but concrete plans have yet to become apparent. The introduction of better competitive conditions will depend on the political will of the new government. Tunisia is now in a phase of transition until general elections are held and a new constitution is enacted.

By taking the necessary steps to promote strong policy leadership, and competitive market safeguards, Tunisia is well positioned to become a growth market in electronic communications in North Africa.

**Chart3: Comparison of the overall legal/regulatory risk for telecommunications in Tunisia with international practice and regional performance**

**Tunisia: Overall legal/ regulatory risk**

Key: Extremities of the chart = International best practice
Tunisia = Solid line
Regional average = Shaded area

Overall legal/regulatory risk = 55 (100 is the lowest)
4: CONCLUSIONS FROM THE ASSESSMENT

The overall ranking of legal/ regulatory risk for the 31 participant countries is shown in the following 7 charts.

- Regional rankings: Overall legal/regulatory risk
- Regional rankings: Legal framework
- Regional rankings: Sector organisation and governance
- Regional rankings: Market conditions for wired services
- Regional rankings: Market conditions for wireless services
- Regional rankings: Fees and taxation
- Regional rankings: Information society progress.

In this section, some broader conclusions are firstly drawn from the Assessment results, as shown in the regional rankings, with more specific conclusions regarding the improvement of conditions for investment in the electronic communications sector then following.

The criteria that were used to arrive at the ranked scores in the Assessment are described in section 2 of this report and are summarised at the foot of each chart below.
The Overall Legal/Regulatory Risk Index is a summation of a number of components, as defined in section 2 of this report.

1) **Legal Framework.** This component assesses if the degree of conformity with a modern legislative framework for an efficient competitive market for electronic communications. (Weighting = 30 per cent)

2) **Sector organisation and governance.** This relates to the structure of the electronic communications sector including ownership, regulation and the main regulatory procedures. (Weighting = 10 per cent)

3) **Market conditions for wired networks and services.** This relates to the market entry conditions faced by operators and service providers who base their services on metallic, as opposed to wireless (spectrum) based methods. It also explores the competitive safeguards in the market - what the new entrant is and is not allowed to do. (Weighting = 20 per cent)

4) **Market conditions for wireless networks and services.** These relate to market entry by operators and service providers who base their services on wireless (spectrum) methods. This includes mobile services and fixed wireless services. It also explores the competitive safeguards in the market - what the new entrant is and is not allowed to do. (Weighting = 25 per cent)

5) **Fees and taxation on electronic communications services.** This relates to the types of payments required from operators/service providers to the state and/or regulatory agency in order to start and continue providing services. (Weighting = 10 per cent)

6) **Progress towards implementation of Information Society.** This relates to the country’s environment for conducting business and providing services electronically. (Weighting = 5 per cent)
Conclusions from the assessment

The legal framework score is a summation of a number of components, as defined in section 2 of this report. The legal benchmarks together contribute 30 per cent of the overall legal/regulatory risk assessment. The key components are:

1) **Regulator independence and structure.** This examines the legal basis for separation of policy, regulatory and operational functions, plus the structure and operation of regulator. (Internal weighting 20 per cent)

2) **Authorisation regime.** This examines the legal basis for authorisation and licensing powers and where relevant, includes interim provisions transitioning from old to a modern legislative framework. (Internal weighting 10 per cent)

3) **Interconnection and infrastructure access.** This examines the legal basis for a well-defined interconnection, access, facilities sharing, and for unbundling rights and obligations. (Internal weighting 10 per cent)

4) **Market analysis and enforcement.** This examines the legal basis for market analysis and other processes for the designation of significant market power, the effective regulatory powers to impose and enforce additional obligations on dominant operators to prevent discrimination and abuse of dominance, plus effective dispute resolution powers and procedures and the powers for the regulatory authority to enforce the law, impose fines or other effective penalties. (Internal weighting 20 per cent)

5) **Spectrum management.** This examines the legal basis for a fully defined and effective spectrum management regime. (Internal weighting 10 per cent)

6) **Universal Service.** This examines the legal basis for an effective universal access/universal service regime and enabling framework. (Internal weighting 10 per cent)

7) **Consumer protection.** This examines the legal basis for effective consumer protection using international best practice. (Internal weighting 10 per cent)

8) **Numbering.** This examines the legal basis for effective numbering administration. (Internal weighting 10 per cent)
The sector organisation and governance score involves a total of 13 individual elements (as defined in Section 2 of this report). The assessment considers the structure of the electronic communications sector including ownership, regulation structure, funding and the regulatory procedures enabling competitive market development. The individual factors include a clear division of policy and regulatory functions, remaining state ownership or retained rights, appointment of regulatory officials, dispute resolution, appeals procedures, public consultations, publication of regulatory decisions, the relationship between the sector regulator and the competition authority, resources of the regulatory agency, funding, plus the country’s membership of WTO.

The organisation and governance benchmarks together contribute 10 per cent of the overall legal/regulatory risk assessment.
The score for **market conditions for wired services** involves a total of 17 individual elements (as defined in Section 2 of this report). This part of the regulatory assessment looks at the competitive conditions in the market for operators and service providers who base their services on metallic, as opposed to wireless (spectrum) based methods. The assessment focuses on the implementation of good market entry conditions and normally expected competitive market safeguards. The list of includes the implementation of a general authorisation regime, with simple notification procedures eliminating any requirement for explicit decision by the regulator, technology neutrality, reasonable timeframes for obtaining rights-of-way permits from private or public property owners, the mandating of passive infrastructure sharing (ducts, poles, towers, masts, buildings and other facilities), alternative operator access to passive network elements owned by an existing operator at fair, cost-related charges, completion of fixed-line retail tariff rebalancing, implementation of fixed number portability, carrier selection, carrier pre-selection and wholesale line rental, access to the fixed incumbent's international gateways, the publication of reference interconnection and unbundling offers, the regulation of interconnection charges, the regulation of local loop unbundling charges and the existence of a significant number of the incumbent's unbundled local loops, the availability and extent of wholesale broadband access, the existence of a competitive triple play market.

The benchmarks regarding market conditions for wired services together contribute 30 per cent of the overall legal/regulatory risk assessment.
The score for market conditions for wireless services involves a total of 10 individual elements (as defined in Section 2 of this report). This part of the regulatory assessment looks at the competitive conditions in the market for operators and service providers who base their services on wireless (spectrum) based methods, including mobile and fixed wireless services. These factors consider the implementation of good market entry conditions and normally expected competitive market safeguards. The list includes the granting of spectrum to applicants on a first-come-first-serve basis or, if spectrum in particular bands is scarce, by a transparent public contest (for example, public auction or beauty contest), the technologically-neutral use of spectrum, the allowance and existence of mobile virtual network operators, the re-farming of the 900 and 1,800MHz frequency bands, the allowance of secondary spectrum trading, interconnection charges regulation (mobile call termination and origination), publication of reference interconnection offers by mobile operators, the requirement for national roaming.

The benchmarks regarding market conditions for wireless services together contribute 35 per cent of the overall legal/regulatory risk assessment.
The score for fees and taxation involves a total of 4 individual elements (as defined in Section 2 of this report). This part of the regulatory assessment looks at the types of payments required from operators/service providers to the regulatory authority or ministry in order to start and continue providing the operators’ services. The individual factors include the cost basis of the administrative fees to be paid to the regulator or ministry, the arrangements for operators/service providers to pay into a universal services fund, the imposition of any special taxes for electronic communications services (besides the normal corporate or VAT taxes) plus the clarity, stability and transparency of the full system of payments required from operators/service providers.

The benchmarks regarding market conditions for wireless services together contribute 10 per cent of the overall legal/regulatory risk assessment.
The score for information society progress involves a total of 4 individual elements (as defined in Section 2 of this report). This part of the regulatory assessment looks at the country's environment for conducting business and providing services electronically. The individual factors include the ease of starting a wide range of internet services without any prior authorisations, a liberalised approach to the freedom of expression and information, the legal framework for recognising electronic contracts and signatures, liberalised domain registration (i.e. not limited to a single domain registrar), a functioning legal framework for protection of personal data plus adoption of an internationally recognised convention on cybercrime.

The benchmarks regarding market conditions for wireless services together contribute 5 per cent of the overall legal/regulatory risk assessment.
Conclusions from the Assessment results

General conclusions from the Assessment results

The regional rankings show that there are varied levels of implementation of legal and regulatory best practice across the 31 countries included in the Assessment. In general:

- **Group A countries** (Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Mongolia, Russia, Tajikistan, Turkmenistan and Ukraine) display higher overall legal/regulatory risk, though the levels of that risk vary widely amongst those countries.

- **Group B countries** (Albania, Bosnia and Herzegovina, Croatia, FYR Macedonia, Montenegro, Serbia and Turkey) are increasing harmonisation with EU member states thereby reducing the overall legal/regulatory risk.

- **Group C countries** (Egypt, Jordan, Morocco and Tunisia) also have varying though declining levels of overall legal/regulatory risk.

- **Group D countries** (Bulgaria, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic and Slovenia) have already reduced the overall legal/regulatory risk significantly by largely adopting best practice.

The following paragraphs describe the main areas where key aspects of legal/regulatory best practice remain to be implemented amongst the country groupings. A summary of the recommendations for each country is given in section 5 of this report.

### Group C countries
*(Egypt, Jordan, Morocco and Tunisia)*

- **The legal frameworks** in Group C countries are currently under active modification, using the EU legal and regulatory framework to provide the general direction towards best practice. Notably, amongst all Group C countries, there is a need to better provide the key competitive and market entry benefits that a general authorisation framework provides (as understood from the EU framework). While this cannot happen immediately, there should be provision for the transition from individual licensing to a general authorisation framework in order to simplify market entry and reduce legal risk. Other areas where more legal clarity is generally required are market analysis, to ensure that the regulator has clear powers including enforcement of market remedies, consumer protection and universal service.

- **Sector organisation and governance.** There remains some form of state ownership in all Group C countries. Although all four countries have defined separate policy, ownership and regulatory functions, the strengthening of independence of the regulatory decision-making is needed generally to reduce overall legal/regulatory risk.

- **Market conditions for wired services** continue to improve in Group C countries although, notably, none have yet completed the transition to a general authorisation regime. Fixed number portability and fixed line retail tariff rebalancing has been implemented only in Morocco. Rights of way into public and private property should be strengthened generally, and the remaining competitive market safeguards need to be enforced, in particular infrastructure sharing and cost oriented wholesale charging based on modern cost models. Fixed-line retail tariff rebalancing has so far only been completed in Morocco.

- **Market conditions for wireless services.** Growth in mobile markets has been strong in Group C countries and market regulation is moving towards best practice. Mobile number portability has been implemented in Egypt and Morocco. The transition to more a market-led spectrum management regime needs to be accelerated to meet the growth of broadband. Spectrum authorisations are already technologically neutral and national roaming is in place (except in Tunisia), although provision needs to be made for spectrum re-farming and trading and for virtual mobile operators to enter the markets. Plans for the switch off of analogue broadcasting need to be finalised in order to provide valuable spectrum for broadband expansion, especially in rural areas.

- **Fees and taxation.** Special taxes are imposed in Egypt and Jordan. The situation is particularly complex in Jordan, where the overall burden on mobile operators includes revenue sharing and special taxes. Morocco and Tunisia use development fund contributions from the sector to finance infrastructure expansion.

- **Information society progress.** Good progress has been made in Group C countries in implementing the required information society safeguards. Egypt and Tunisia still need to implement adequate
cybercrime protections and Jordan has not yet liberalised domain name registration. Adequate data protection provisions appear in place in the Group C countries, except in Egypt.

Improving conditions for investment

The continuing high demand for broadband services will attract investment, provided that the enabling legal and regulatory frameworks provide the easy market entry and competitive safeguards now expected by investors, following the reforms introduced throughout the EU. The best practice legal and regulatory conditions are already in place in Croatia, which will join the EU in 2013. In total, 25 of the 31 countries assessed in this report have either adopted substantial components of the EU regulatory framework for electronic communications, or have committed through their agreements with the EU to its adoption. The remaining 6 countries (Kazakhstan, Kyrgyz Republic, Mongolia, Russia, Tajikistan and Turkmenistan) have implemented some reforms, but the overall legal/regulatory risk will remain higher in these countries until the best practices that are features of the EU framework are adopted. The speed at which a country adopts legal and regulatory best practice is critical to investment confidence.

The following features of the EU framework are a priority with respect to the attraction of investment, especially in building the high capacity network infrastructures required to meet the very high growth in broadband demand from consumers.

Spectrum liberalisation:

Key aspects of spectrum which the countries of the region should focus on are:

- Spectrum should be made available to meet demand, as determined by the market. To achieve this, spectrum management needs to be better coordinated across the telecommunications and broadcasting markets and the regulatory process needs to be independent, fair and transparent in order to ensure that the economic value of the national spectrum resource is optimised.

- At the moment, most countries use a legacy process of spectrum management, which is over-reliant on analogue technology methods and political considerations. The planned switchover from analogue to digital broadcasting is already underway. The analogue switch-off must be completed by mid-2015, at the latest, to comply with international obligations. In some cases (for example Croatia and Georgia) suitable spectrum for is already available but the necessary cross-border co-ordination will delay the exploitation for broadband expansion because the same frequencies are used for analogue broadcasting in neighbouring countries. In parallel with the digital switchover plans, spectrum management must be modernised, in order to ensure the best economic outcomes that are available from the “digital dividend” made possible by the release of the spectrum previously used by analogue terrestrial broadcasting.

- The release of this analogue broadcasting spectrum will make available a very large amount of valuable "digital dividend" spectrum that can be exploited by electronic communications providers to the expected growth in broadband services. If this challenge is met in all countries over the next 2-3 years, then the demands of rural, as well as urban citizens can be met with more cost-effective investment, giving better quality and value for money to consumers.

Infrastructure sharing

Since market liberalisation, new entrants have generally invested in separate telecommunications infrastructures to bring their services to local and national markets. In the mobile sector, each country has (typically) three network operators that have built three separate networks each with its own switches and transmission masts. There has been some exploitation by mobile companies of the existing network infrastructures generally controlled by the incumbent fixed operator. However, where these legacy networks have used older technologies, or where the network has insufficient capacity, the mobile companies have invested in their own dedicated transmission network infrastructures.

New entrants to the fixed access markets (telephony and broadband) have also generally built alternative network infrastructures, starting in the larger cities where the higher demand can justify these new investments. Although investors should have the freedom to invest in their own infrastructures, in many cases, the costs associated with this duplicative infrastructure deter investment, especially in areas where demand has yet to develop, or where the costs of building the infrastructure are currently high.

Overreliance on separate duplicative infrastructures (the “infrastructure competition” model) results in the expansion of modern services being generally slower and more expensive than necessary, due to the construction of redundant network infrastructure. This leaves many geographical areas underserved,
Conclusions from the assessment

because the investment case for separate infrastructures is not sufficient to create good market conditions. To ensure that network investment is more responsive to demand, operators should be allowed and encouraged to exploit infrastructure sharing options, to improve the commercial case. This issue will be particularly important in meeting the demand for new broadband services (fixed and mobile). The commercial case for multiple investments in urban areas is already strong, with high consumer and business demand. The commercial case for expansion of high capacity infrastructure to meet the demand in more rural areas is greatly improved when options for infrastructure sharing are considered.

Key aspects of infrastructure sharing which the countries of the region should focus on are:

- Modern digital technologies allow several channels to use the same infrastructure, for example the Asynchronous Digital Subscriber Line (ADSL) technology can provide two services over one copper loop. In many countries, the regulatory conditions have been slow to adapt to provide for new market entrants to share the existing infrastructures that are in place in order to give the end consumers a choice of retail service provider under fair competitive market conditions.

- Many of the barriers to infrastructure sharing have come from the incumbent fixed operators, with their legacy of monopoly markets often under state control. Although the building of separate network infrastructure investment may make commercial sense in high density urban areas, it becomes less attractive as the network expands. This results in poorer service and lack of choice for rural citizens.

- In most of the countries assessed, fixed network penetration has been historically low, so substantial investment in access technologies (both fixed and mobile) will now be needed to meet the demands from consumers for new services. Where demand will justify investment in only one high-capacity infrastructure, as in most rural areas, the need for infrastructure sharing is most pressing.

- In all parts of the network, a fully open and competitive market needs the option of infrastructure sharing, so that investors can make a free choice between making new investments or leasing capacity from other existing networks. In this way, the introduction of new services in a competitive market can take place faster, in response to demand. Regulators in the EU have introduced market oriented obligations on existing network operators to make their capacity available on a fair, transparent basis at wholesale charges that are related to incremental costs and acceptable rates of return.

- These standard regulatory tools can and should be introduced in countries outside the EU to create effective wholesale markets that can bring faster introduction of competitive broadband services, especially in rural areas. The new wave of next generation networks and access (NGN and NGA) investments will be maximised if the best practice infrastructure access and sharing regulations are implemented. This will result in more choice to consumers without the added expense of (for example) multiple radio masts and multiple fibre investments where they are not needed.
Conclusions from the assessment

Special tax burdens on operators

The Assessment has identified examples where special taxes are imposed on the electronic communications sector. Special taxes are imposed on mobile operators in Egypt, Georgia, Hungary, Jordan, Moldova, Tunisia, Turkey, Tajikistan and Ukraine. According to the mobile operators, the imposition of high taxes affects their investment plans with indirect repercussions on the country's GDP. A recent Global Mobile Tax Review report\(^\text{19}\) stated that:

“High taxes on mobile services run counter to government’s commitments to improving access to communications. At the World Summit on the Information Society in 2003, 175 countries signed up to a commitment to give more than half the world’s population access to information and communications technologies by 2015......the direct impact of reducing mobile phone specific taxation is, in most cases, almost fully counterbalanced through indirect taxation and growth impacts.”

Special mobile tax measures have also been condemned by the GSM Association\(^\text{20}\) and the European Commission. The GSMA report concluded that;

“In some cases, lowering taxes on mobile communications could actually increase government's total tax revenue in the longer-term. Each new mobile phone user would generate an additional US$25 a year in service tax revenues at the current levels of taxation on usage.

“Eliminating all telecom-specific and other special taxes would boost the number of mobile users in the 19 affected markets by 34 million by 2010 and mobile voice traffic in these markets by 25%.

“Of the 50 countries in the study, Turkey levies the highest rate of taxes on mobile communications - nearly 44% of the cost of owning and using a mobile phone is made up of taxes. That represents an average of US$73 in taxes each year for each user.”

The imposition of special taxes remains a significant investment risk for investors in telecommunications.

Summary of key priorities for improvement of the investment climate:

- Full spectrum liberalisation
- Analogue to digital broadcasting switchover
- Non-discriminatory access to rights of way
- Removal of existing market entry barriers
- Implementation of the normally expected competitive safeguards (including number portability, infrastructure access and sharing)
- Removal of special tax burdens on operators.

\(^{19}\) http://serving.webgen.gsm.org/5926DA9A-2DD6-48E7-BAD4-50D4CD3AF30A/assets/taxreview0607.pdf
\(^{20}\) see www.cellular-news.com/story/14210.php
5: RECOMMENDATIONS

The following recommendations arise from the Assessment, in particular the conclusions related to the need to adopt legal and regulatory best practices. These recommendations therefore aim to indicate specific measures which, when introduced, can to reduce the overall legal/regulatory risk associated with investments in the electronic communications sector.

Group C Countries
(Egypt, Jordan, Morocco and Tunisia)

The Group C countries vary significantly in their legislative frameworks, in part due to the particular legislative customs, practices and traditions in each country. The democratic movements in the region have provided the impetus to reassess existing legislation in each country in an effort to increase openness and accountability. Backed by cooperation agreements with the EU, this has resulted in a move to align electronic communications sector more closely with the EU regulatory framework.

The main amendments required to the legislative regimes in the Group C countries focus on improving the independence of the national regulatory authority, moving from individual licensing regime to general authorisation, and promoting better market analysis and spectrum management.

- Each of the four Group C countries has a separate national regulatory authority, with some provision for independence, however substantial further strengthening is needed to ensure the full structural, financial and operational independence of those regulators.
- All four countries apply an individual licensing framework, with key elements of the regulatory framework typically included in the licence conditions, rather than in general regulations. A move to the general authorisation and notification regime associated with best practice would reduce barriers to new entrants. This would require the introduction of a simple notification scheme and a transition of existing licences to general authorisations, supported by the overall legal and regulatory framework.
- The regulators in all four countries are authorised to conduct market analysis. However, revisions are required to align with best practice. Where necessary, the regulator’s powers need to be clarified and further guidance issued on processes to be used for the determination of significant market power and the specific remedies that may be applied to improve competition.
- While spectrum management frameworks in most of these countries meet many best practice requirements, strengthening of the legal provisions is required to guarantee that open, objective, transparent, non-discriminatory and proportionate procedures are used to grant rights of use for spectrum. Specific and short time deadlines should be used for deciding on applications for spectrum.

A summary of the main recommendations arising from this Assessment is given in the tables below.
Recommendations for Tunisia

**Recommendation table I: Summary of priority recommendations to improve the legal framework**

<table>
<thead>
<tr>
<th>Group C Countries</th>
<th>Regulator independence and structure</th>
<th>Authorisation regime</th>
<th>Interconnection and infrastructure access</th>
<th>Market analysis and enforcement</th>
<th>Spectrum management</th>
<th>Universal service</th>
<th>Consumer protection</th>
<th>Numbering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tunisia</td>
<td>Improve structural, financial and operational independence of sector regulator. Adopt new comprehensive updated telecom law to eliminate conflicting provisions of various existing laws applicable to the sector. Provide regulator with full breadth of regulatory powers (including in licensing, spectrum administration, universal service, clearer power to adopt regulations).</td>
<td>Transition from individual licensing to general authorisation framework</td>
<td>Limit requirement for reference offers to SMP operators</td>
<td>Provide definition of SMP and guidance for conduct of market analysis Limit remedies so that they may be imposed only on SMP operators Authorise regulator to impose meaningful and proportionate fines</td>
<td>Provide role for regulator in spectrum administration</td>
<td>Provide role for regulator in universal service administration. Provide guidance for selection of operators. Provide for compensation to operators based on net cost, if represents unfair burden</td>
<td>Enhance consumer protection, ideally through direct provisions in the law (currently many provisions are in licenses)</td>
<td></td>
</tr>
</tbody>
</table>
## Recommendation Table II: Summary of priority recommendations to improve regulatory implementation

<table>
<thead>
<tr>
<th>Group C Countries</th>
<th>Sector organisation and governance</th>
<th>Market conditions for wired services</th>
<th>Market conditions for wireless services</th>
<th>Fees and taxation</th>
<th>Information society safeguards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tunisia</td>
<td>Reduce state ownership</td>
<td>Implement fixed number portability</td>
<td>Implement mobile number portability</td>
<td>Adopt definition of universal service obligation and services and determine tariffs for these services</td>
<td></td>
</tr>
</tbody>
</table>
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