المجلس الأعلى للإتصالات و تكنولوجيا المعلومات
Supreme Council of Information & Communication Technology

ictQATAR

STRATEGIC SECTOR REVIEW

Consultation Document

The Supreme Council of Information & Communication Technology "ictQATAR"

20 February 2011

Comments in response due by 20 March 2011

ICTRA 02/11-SSR-Consult

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1 Introduction

1.1 Strategic Sector Review Purpose and Process

Qatar's telecommunications sector began to liberalize in 2006 following commitments made by the State of Qatar to open the sector to competition. The enactment of the Telecommunications Law 34 of 2006 (Telecommunications Law) was quickly followed by the issuing of new public mobile and fixed licenses in 2007 and 2010.

The Competition Policy Chapter (Articles 40.1 and 40.2) of the Telecommunications Law of 2006 emphasizes that the General Secretariat shall review the state of competition in telecom markets and update policy and related regulations accordingly. Following this mandate, ictQATAR has instigated this Strategic Sector Review (**SSR**) to assess the current state of competition in the telecom sector, monitor developments since the start of liberalization, and recommend policies to promote the sector's future development. This SSR does not intend to provide an exhaustive analysis of the markets but to give an accurate overview of the sector using a benchmarking and associated methodology to demonstrate the economic picture.

To complete the SSR, ictQATAR has designed the following process with four distinct phases:

- **First phase: data collection.** As a first step, ictQATAR gathered relevant data concerning the telecom market not only from Qatar but also from several other peer countries for comparison. Most of this data was collected from June to November 2010.
- **Second phase: market assessment.** In this phase, ictQATAR assessed the market based on the data collected. This phase was largely completed between October and December 2010. It concludes with the publication of this consultation document, in which ictQATAR shows the results of its assessment and its preliminary policy recommendations.

- **Third phase: consultation.** In this phase, operators and other industry stakeholders will have the opportunity to express their views and comments on ictQATAR's findings and preliminary policy recommendations. This process will end on 20 March 2011, when the answers from industry stakeholders are due.

- **Fourth phase: final recommendations.** After having received and analyzed the views of the industry, ictQATAR will publish its final policy recommendations.

Phase three of the SSR, consultation, starts with the publication of this document. Sections 1.2 to 1.5 below provide more details of this phase.

1.2 Consultation Description and Objectives

This consultation document presents ictQATAR's findings on how the sector has developed since the liberalization and how it may develop in future. It assesses the sector's performance against the five main objectives of liberalization, namely: to encourage competition, to increase customer benefits, to support the health of the industry, to create sustainable investments, and to encourage ubiquitous services. To make these assessments, we have compared key indicators of performance with international benchmarks. The key indicators include innovation and variety of service, service penetration, investment, quality of service, price levels, and technology evolution.

ictQATAR is launching this consultation with the objective of:

a. Sharing the findings of extensive analyses of the telecom market in Qatar performed between June and mid-November 2010

b. Involving the operators and other stakeholders in assessing the sector and developing recommendations that will improve it over the next few years

c. Soliciting final input into policy recommendations that ictQATAR is considering for promoting continued development of the sector.

This consultation is not intended to be an exhaustive analysis of the telecom sector in Qatar. Its purpose is to point out some of the most important issues affecting the market and provide room for operators and interested parties to comment and share their views on the sector's development.

Taking responses from all parties into account, the final SSR document will recommend appropriate policy changes to ensure the continued development of a healthy and sustainable telecom sector in Qatar.

1.3 Scope and Methodology

The sector review has focused on analyzing fixed and mobile telecom services for business and residential customers from 2006 to 2010. The review took into account operators' performances within the Qatari market alone and not in other markets. Comparative market data from the founding countries of the Organisation for Economic Co-operation and Development (OECD) and the Gulf Co-operation Council (GCC) countries was used as a benchmark wherever it was available and relevant.

The consultation process will not cover the following topics as they lie outside the scope of the current strategic sector review:

a. Distribution of services at retail level (e.g., in retail shops and other points of sale);

b. Users' and operators' telecom equipment and processes related to their availability (e.g., fixed and mobile telecom network equipment, mobile handsets, equipment approval, import and sales processes);

c. Spectrum policy, to avoid duplication. On October 5, 2010, ictQATAR launched a separate Radio Spectrum Policy Consultation addressing all issues relating to spectrum policy and management.

1.4 Document Structure

The rest of this consultation document comprises three sections. The first presents a macroeconomic perspective on the contribution of the telecom sector to Qatar's economy. It analyzes the sector's impact and its potential as a force for generating economic diversification in Qatar. The second section presents the telecom sector review, which takes the key sector objectives defined in Qatar's Telecommunications Law and analyzes their evolution since the sector's liberalization. This section also compares Qatar's telecom sector with that of other countries to provide an international perspective on the sector's development. The third section summarizes ictQATAR's views on the sector and poses questions concerning the evolution of the sector that Qtel and Vodafone Qatar and other industry stakeholders are invited to answer as part of the consultation process. The section also presents ictQATAR's preliminary recommendations and asks for comments on them from the participants.

1.5 Consultation Process and Key Dates

This consultation process consists of the following steps:

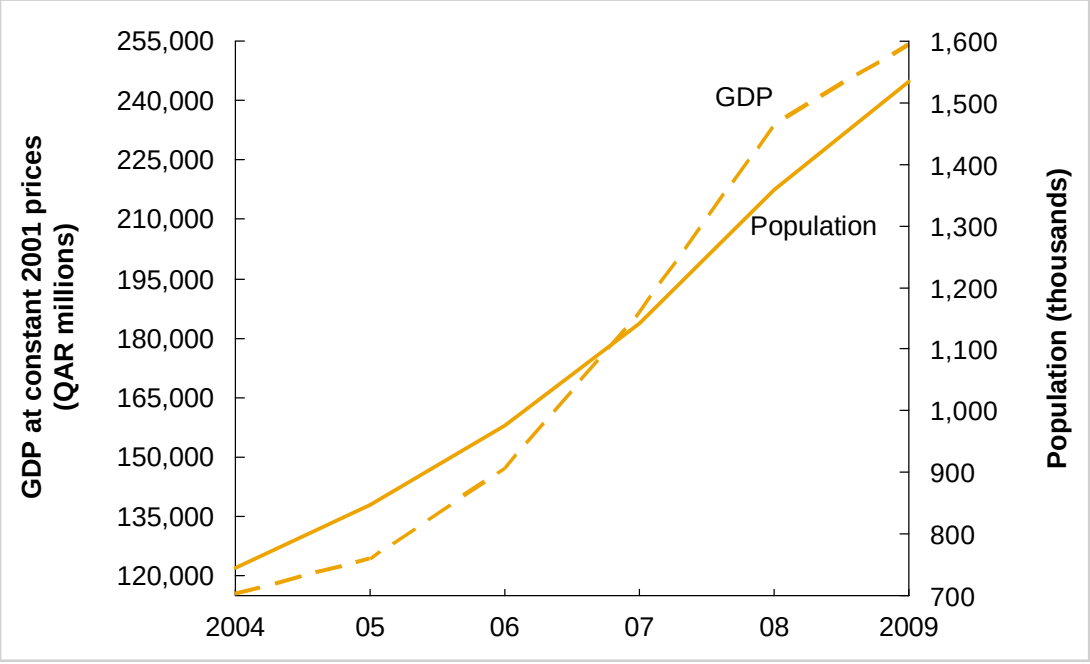
Step	Time
Publication of this consultation document to invited parties	20 February 2011
Deadline for submitting responses to ictQATAR	20 March 2011
Review of submissions and preparation of a response by ictQATAR	7 April 2011 (indicative)
Publication of the final SSR on ictQATAR's website	28 April 2011 (indicative)

2 Telecommunications Sector's Contribution to Qatar's Economy

During the past five years, Qatar's economy has experienced growth averaging 18 percent a year. This significant growth has been supported by the country's large exports of oil and gas, which amounted to QAR 165 billion in 2009 or approximately 46 percent of the total GDP. Strong growth in Qatar's GDP has been accompanied by a substantial increase in the country's population as Exhibit 1 shows. This increased from 744,000 in 2004 to an estimated 1.5 million in 2010, of which approximately 60 percent are low-skill workers[1]. These particularities of Qatar's economy heavily influence the developments of the telecom sector, as shown in Sections 3.1 and 3.2.

EXHIBIT 1

Evolution of GDP and population in Qatar, 2004 - 09



SOURCE: Qatar Statistics Authority

The telecom sector in Qatar has also experienced significant growth during the past five years, which have encompassed the beginning of market liberalization in 2006 and the arrival

[1] Qatar Statistics Authority, Qatar Information Exchange.

of a second public mobile operator in June 2009. Over the period, ictQATAR has put in place a regulatory framework with policies to facilitate competition including, among others, policies enabling site sharing, rights-of-way, wholesale access, mobile number portability, and spectrum availability.

The sector remains dominated by the mobile telecom services market, as this is the only market where much of the liberalization has so far occurred. The relatively small role played by fixed services compared to international benchmarks may mean that Qatar's telecom industry has made a weaker contribution to the GDP and employment than it could have done. Slow development of fixed services is probably affecting the development of adjacent industries (e.g., content and media, healthcare, retail, banking, and insurance) and, ultimately, the potential for the Qatari economy to diversify.

Going forward, ictQATAR, with the support of the Qatari Government, is undertaking several initiatives, including the launch of the Qatar National Broadband Network (QNBN), which is expected to increase investment in the industry overall and extend the involvement of the fixed telecom sector in the broader economy.

ictQATAR is aware that the telecom sector and its infrastructure represent "new highways" for Qatar and that their development has a multiplier effect on the economy as a whole. Therefore ictQATAR is fully committed to developing the sector so that it continues to play a leading role in enabling the country to achieve its 2030 vision of economic diversification.

2.1 Regulatory Framework

Since the creation of the regulator (ictQATAR) by Decree Law 36 of 2004, the Qatari government has developed a regulatory framework that constitutes the basis for creating a competitive sector in the country. It is within this framework that licensed operators choose their conduct and practices concerning, for example, marketing, pricing, and service innovation.

Regulatory policies pursuant to the Telecommunications Law have been implemented concerning a number of issues, ranging from numbering and site sharing to mobile and fixed number portability. However, it is still too early to judge if they are effective in meeting the objectives of sector liberalization.

Regulatory provisions have been made in the Executive By-Law of 2009 for the Telecom Law. For instance, provisions for wholesale access to existing network infrastructure through unbundling, ducts, and network facilities are currently in place. These could create incentives for new operators to enter the fixed and mobile telecom markets because they

are designed to reduce investment costs and time to market by allowing new operators to enter the markets without having to build a complete network of their own. Exhibit 2 provides a brief overview of the legal and regulatory provisions currently in place in Qatar for the fixed and mobile markets. Qatar's regulatory framework has provided a strong pillar supporting the evolution of the country's telecom sector, as explained in the following section.

EXHIBIT 2

Qatar has a modern telecom regulatory framework

	Brief description	Fixed Laws/License Provisions	Mobile Laws/License Provisions
Industry structure	Mechanisms used by ictQATAR to ensure the entry and conduct of players in the market	• Second fixed entrant • VSAT licenses • Use of VoIP is legal • QNBN	• Second mobile entrant • Spectrum allocation • Numbering
Retail pricing	Obligations to ensure retail prices remain above costs as required under Qatar's telecom law	• Ensure retail prices are above costs (only for dominant service providers)	• Ensure retail prices are above costs (only for dominant service providers)
Infrastructure access	Policies regulating infrastructure access obligations and prices of wholesale service according to license obligations	• Wholesale access provisions exist for unbundling, ducts, and network facilities	• Site sharing
Customer access	Mechanisms aimed at facilitating customer access to operators	• Fixed number portability	• Mobile number portability
Performance targets	Quality-of-service standards as per license requirements for operators as a way to ensure service quality levels	• Quality of service requirements • Customer protection (complaints) procedures	• Quality of service requirements • Customer protection (complaints) procedures

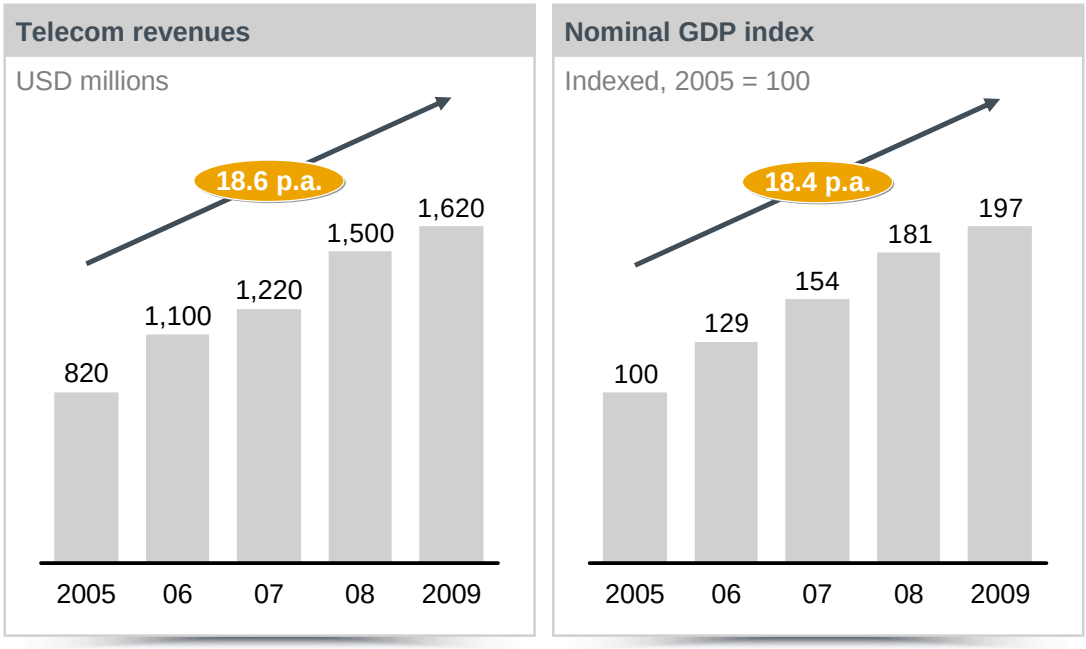
SOURCE: ictQATAR; Telecommunications By-Law; Telecommunications Law 1996

2.2 Industry Evolution

Since 2005, Qatar's telecom sector has grown at an annual average of 18.6 percent compared to annual GDP growth of 18.4 percent over the same period (Exhibit 3). This strong growth has been largely supported by simultaneous population growth in Qatar, as mentioned above.

EXHIBIT 3

Telecom sector revenues have grown faster than GDP



SOURCE: Qatar Statistics Authority; International Monetary Fund

In addition, Qatar has moved up nine places on the World Economic Forum's Network Readiness Index, from 39th in 2006 to 30th in 2010, putting Qatar far ahead of Kuwait, Oman, and Saudi Arabia, one place behind Bahrain and seven behind the UAE (Exhibit 4). Several factors have contributed to this progress, including:

- Government readiness: the government readiness indicator measures, among other things, successful government promotion of ICT and government efficiency. On this indicator, Qatar moved from 36th place in 2006 to 3rd in 2010.

- Market environment. On this indicator, which measures the "intensity of local [telecom] competition," Qatar progressed from 67th place in 2006 to 14th in 2010, due to the benefits of introducing liberalization and more competition, supported by a modern regulatory framework.

EXHIBIT 4

Qatar has improved its positioning in global ICT rankings

GCC countries
Improved
Declined

Network Readiness Index (2005 - 06)	
Country	Rank
US	1
Singapore	2
Denmark	3
Iceland	4
Finland	5
Canada	6
Taiwan	7
Sweden	8
Switzerland	9
UK	10
UAE	28
Qatar	39
Kuwait	46
Bahrain	49
Saudi Arabia	NA
Oman	NA

Network Readiness Index (2009 - 10)		
Country	Rank	
Sweden	1	
Singapore	2	
Denmark	3	
Switzerland	4	↑
US	5	↓
Finland	6	↓
Canada	7	↓
Hong Kong	8	↑
Netherlands	9	↓
Norway	10	↑
UAE	23	↑
Bahrain	29	↑
Qatar	30	↑
Saudi Arabia	38	
Oman	50	
Kuwait	76	↓

Main factors that helped improve Qatar's ranking in the NRI

Government readiness
Large improvement from a ranking of 36 in 2006 to a ranking of 3 in 2010. This was led by strong scores in "Government success in ICT promotion" and "ICT use and government efficiency"

Market environment
The "Intensity of local [telecom] competition" changed from a ranking of 67 in 2006 to 14 in 2010

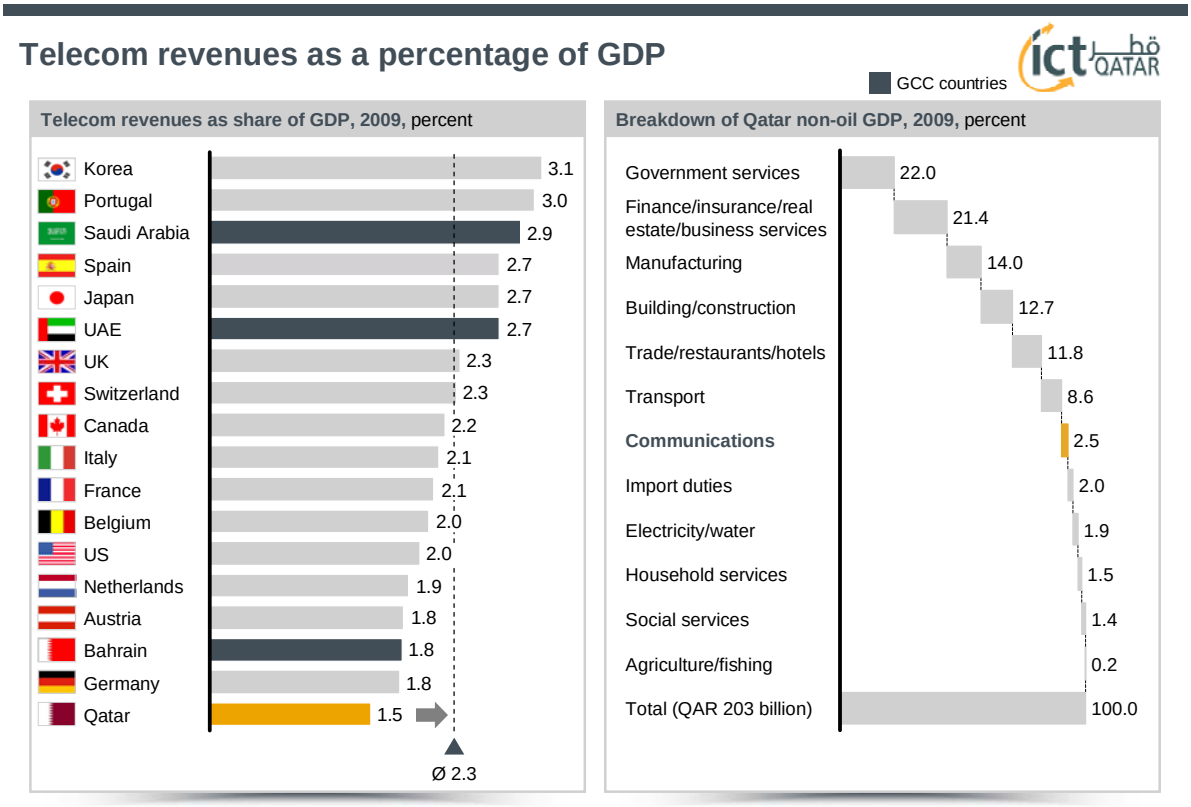
SOURCE: 2010 World Economic Forum Global Information Technology Report

2.3 Sector's Contribution to the Economy

Qatar's telecom sector contributed 1.5 percent to the Qatari GDP in 2009, a relatively low proportion compared to the international average of 2.3 percent (Exhibit 5), but explained by the dominant role of the oil and gas sector in the composition of Qatar's GDP. When the effects of the oil and gas sector on the GDP are discounted, the telecom sector share of the GDP increased to 2.5 percent in 2009, exactly the same as the average share of the telecom sector in GDP in EU15 countries in 1998, when the sector in these countries started to liberalize.

However, neighboring peer countries, such as Saudi Arabia and the UAE, with fairly similar GDP compositions, have higher-than-average telecom revenues as a share of the GDP, at 2.9 percent and 2.7 percent[2], respectively, implying there is a more substantial role for the telecom industry to play in Qatar's GDP.

EXHIBIT 5



NOTE: ictQATAR used founding OECD countries, Japan, Korea, and GCC countries for benchmarking wherever data was available and relevant

SOURCE: Pyramid Report 2009; Arab Advisors Group; Qatar Statistics Authority; Qatar Information Exchange; Bulletin of Transport & Communications Statistics

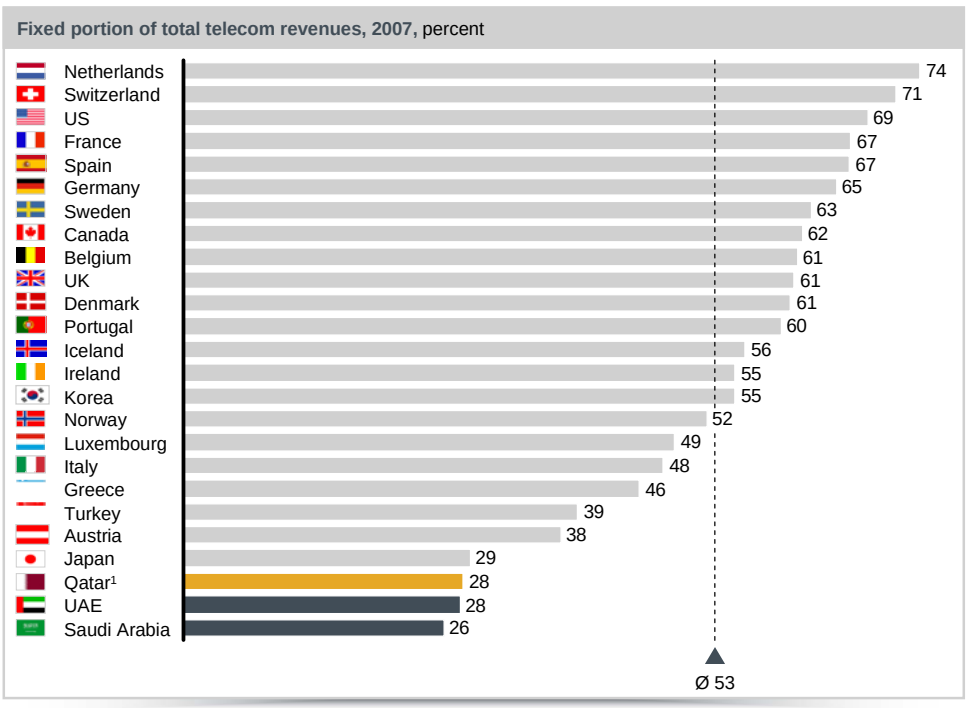
One reason for the low proportion of the telecom sector in the GDP could be the relatively small part played by the fixed market in the telecom sector overall. Exhibit 6 shows that the share of fixed telecom revenue in total industry revenues in Qatar was around 28 percent in 2009, compared to an international average of 53 percent. One possible reason is that most low-skill laborers are heavy users of mobile services, but other reasons may be the limited competition in fixed telecom and a low uptake of fixed data services in the business segment in Qatar. This implies an opportunity to grow the fixed sector in Qatar to international

[2] Assumes reporting methodologies for Saudi Arabia and UAE are in line with Pyramid Report 2009 calculations

standards and to enlarge the sector's impact in many adjacent industries at the same time.

EXHIBIT 6

Qatar's fixed share of total telecom revenues is low compared to international benchmarks



1 2010 data
NOTE: ictQATAR used founding OECD countries, Japan, Korea, and GCC countries for benchmarking wherever data was available and relevant
SOURCE: OECD; WCIS; Telegeography; CITC

2.4 ICT Initiatives

As stated above, ictQATAR believes that it is imperative to foster the telecom sector's participation in the economy. The telecom sector represents the road to achieving Qatar's diversification goals because its developmental impact extends beyond the telecom industry itself to adjacent industries (e.g., content and media, healthcare, retail, banking, and insurance) and the economy as a whole. ictQATAR is therefore fully committed to developing the sector so that it continues to play a leading role in enabling Qatar to achieve its 2030 vision of economic diversification.

To that end, ictQATAR, with the support of the government and various other stake-holders, such as the National Health Authority, Hamad Medical Corporation, Vodafone Qatar, Qtel, and the Qatar Foundation, is undertaking several initiatives to boost the

sector's contribution to the economy. These can be divided into initiatives that drive demand for ICT services and those that will boost supply.

2.4.1 Demand Initiatives

Organizations across the Qatari economy have been working hand in hand with ictQATAR and other government agencies to introduce initiatives that, among other things, will boost demand for telecom services. These include the following:

- **Promoting the use of ICT in education and e-literacy** by donating tablet PCs to high-school students, sponsoring ICT education conferences, and organizing trainings for teachers so they become PC literate
- **Encouraging e-health** by improving the use of digital infrastructure by the National Health Authority and hospitals in Qatar, training 500 nurses on computer systems, improving accessibility, and fostering the exchange of digital medical information as well as monitoring conditions and regulating treatments remotely
- **Supporting e-government** initiatives by launching countrywide e-government in 2006 to increase efficiency, reduce costs, and accelerate interactions with the government while making government services more accessible to citizens. The e-government program is well advanced: by the end of 2008, it offered more than 300 information services and 60 transaction services online.

All these initiatives show the commitment of the Qatari government and ictQATAR to making the benefits of ICT accessible to Qatari citizens and residents as well as fostering demand for telecom services that is expected to increase the population's welfare.

2.4.2 Supply Initiatives

ictQATAR also promotes the creation of the Qatar National Broadband Network (QNBN) to ensure that the supply of telecom services will be able to meet perceived customer demand. The QNBN was assigned substantial resources for the purpose of rolling out high-speed broadband in Qatar. It is laying out a national passive broadband network with the aim of offering fiber coverage to approximately 95 percent of the households by 2015. The aim of the QNBN is to significantly enhance development of the fixed sector.

3 Sector Review

The SSR assessed the Qatari telecommunications market's performance from 2006 to 2010 by measuring its progress towards achieving the 13 objectives[3] specified in the Telecommunications Law, grouped into five broad categories as follows:

1. To encourage competition
2. To increase customer benefits
3. To support the health of the industry
4. To create sustainable investment
5. To encourage ubiquitous services.

Our analysis shows the sector has partially achieved most of its objectives. However, the mobile sector accounts for the lion's share of these achievements while the fixed sector has remained a de facto monopoly. Similarly, the industry is currently healthy, with EBITDA margins of around 48 percent and with growth opportunities in both the fixed and mobile broadband areas. However, revenue growth has slowed considerably. Margins, which were very high before liberalization began, are also on a downward trend and could continue to decrease if there were further declines in national and international call prices.

Sections 4.1 to 4.5 describe our findings in more detail. Each of the subsections below centers on one of the five objectives and has a fixed and mobile element.

[3] Article 2 of the Telecommunications Law of Qatar defined the following sector objectives:
1. Promoting the telecom sector in order to consolidate national, social, and economic development
2. Enhancing the telecom sector's performance in the State of Qatar by encouraging competition and fostering use of telecom services
3. Encouraging the introduction of advanced and innovative information and telecom technologies to meet the needs of customers and the public
4. Increasing customers' benefits and safeguarding their interests
5. Encouraging sustainable investment in the telecom sector
6. Relying, where possible, on market forces to safeguard the interests of customers and the public
7. Identifying and addressing anticompetitive practices in the telecom sector
8. Establishing a fair, objective, and transparent licensing regime for service providers
9. Establishing a fair regime that meets the requirements of the competitive marketplace by implementing an interconnection between service providers and all procedures related thereto
10. Promoting universal service
11. Establishing an effective approval regime for telecom equipment
12. Ensuring that the regulation of the telecom sector remains in line with international rules and
13. Ensuring the orderly development and regulation of the telecom sector.

3.1 Encouraging Competition

Competition has significantly increased in the mobile sector. However, there is still no competition in the fixed market, where Qtel remains the strongest operator despite the issuance of the second public fixed license to Vodafone Qatar in April 2010. In addition, it appears that the country's two operators are not yet unlocking potential synergies between their networks.

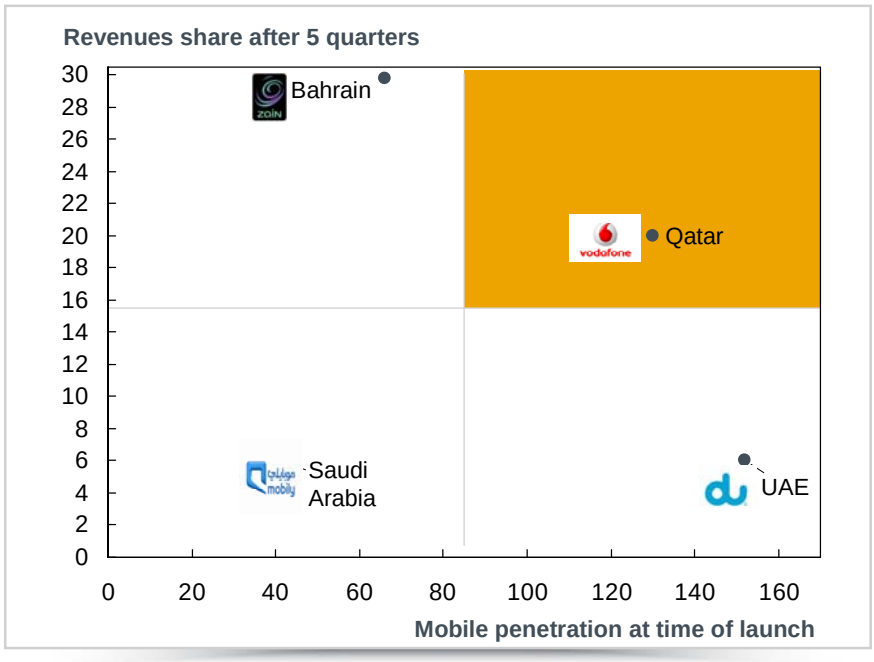
3.1.1 Competition in the Mobile Sector

The Qatari mobile market is now served by two operators with substantial international experience. They bring skilled people and innovative products to the sector. Qtel has operations in more than 16 countries and 66 million subscribers; Vodafone has operations in more than 40 countries and 341 million customers worldwide. Vodafone Qatar received its public mobile license in June 2008 and launched its commercial services in July 2009. It has made significant progress in its first five quarters of operation, despite high numbers of subscribers in mobile markets at the time of its launch. By the end of September 2010, Vodafone had achieved a 20 percent share of mobile revenues and 22 percent of mobile subscribers (calculated by numbers of SIM cards) by acquiring 600,890 active SIMs. Vodafone achieved these levels of penetration by targeting the previously "underserved" market segment of so-called "blue-collar workers" with tailored pricing and promotions, especially on international calls.

Vodafone's success is shown by comparing the impact of other second- and third-mobile entrants in the GCC. Exhibit 7 displays Vodafone's comparatively high market share in Qatar.

EXHIBIT 7

Revenues 5th quarter after launch vs. mobile market penetration at time of launch

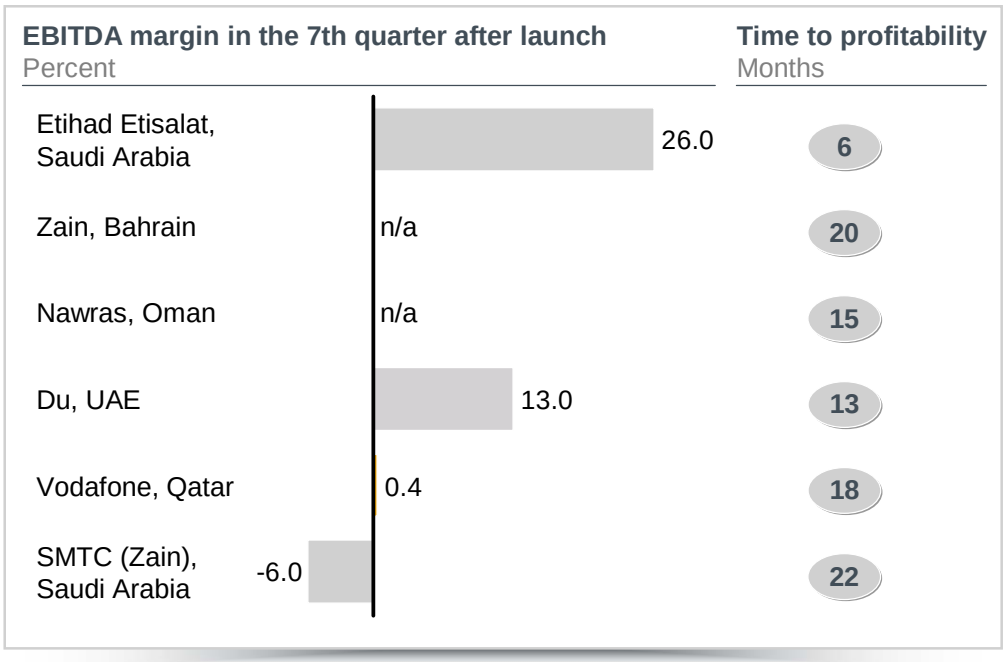


SOURCE: WCIS; company annual report; regulators web sites; wireless matrix

In addition, Vodafone published a positive EBITDA margin of QAR 1 million in the quarter ending in December 2010 (Exhibit 8), approximately 18 months after the launch of its services.

EXHIBIT 8

EBITDA margin in 7th quarter after launch and number of months taken to achieve profitability for a set of telecom players



SOURCE: WCIS; multiple annual reports; Zawya

3.1.2 Competition in the Fixed Sector

Qatar's second public fixed license was issued to Vodafone Qatar in April of 2010, nearly two years after Vodafone Qatar received its public mobile license. Some 99 percent of fixed subscriptions, principally fixed voice and broadband, currently belong to Qtel; thus there has so far been little competition in the fixed sector, the exception being some competition at The Pearl development, where Vodafone has started to offer broadband Internet services by accessing the development's fixed infrastructure and using its own mobile infrastructure.

3.1.3 Site Sharing and Rights-of-Way

Site sharing between operators and awarding rights-of-way to help operators position critical infrastructure in optimal locations are two key facilitators of a competitive telecom market in both mobile and fixed services. They provide critical benefits for the operators, including reducing capital and operating expenditures. In almost all cases, these cost savings

are accompanied by faster deployment, reduced harm to the environment, and better aesthetics. It is important to note that these benefits are passed on to customers, who can expect to gain higher quality of services as well as the lower prices enabled by savings on investment.

The Telecommunications Law and Executive By-Law include provisions covering access to property, site sharing, and rights-of-way. Service providers are entitled to colocate their equipment on existing sites, such as central offices, land, roof tops, mast sites, towers, ducts, and poles, where colocation is technically and economically feasible. They are required to obtain the consent of the property owner and/or the relevant government entity and are given assistance from ictQATAR when necessary to obtain such approvals.

Qtel and Vodafone signed indoor and outdoor site sharing agreements in 2009. There have been some obstacles in site sharing that have hampered progress. Also, due to technical and other concerns, some duplicate towers on single sites have been built. By mid-October 2010, a limited number of indoor and outdoor sites in Qatar were shared. Exhibit 9 shows examples of site sharing in Europe, a more developed telecom sector, where operators in some circumstances are able to share all their civil works, poles, and energy systems, as is the case for Vodafone and Wind in Italy, or O_2 and Vodafone in the UK. Other operators are sharing less sites, among them Telecom Italia and Hutchinson in Italy as well as Orange, 3UK, and T-Mobile in the UK. However, it should be noted that successful site sharing is not ubiquitous in Europe and the practice has yet to be implemented in many European countries and occurs most often between two market entrants.

At this stage, Qatar's service providers have not finalized sharing ducts with other parties.

EXHIBIT 9

Site sharing arrangements are used extensively in Europe

Country	Operators	Date	Sites shared
Italy	Vodafone/Wind	2009	Complete sharing of civil works, poles, and energy systems
	TI/Hutchinson	2009	2,000 mobile sites
Spain	O2/Vodafone	2007	2,200 mobile sites
	Telefónica/Yoigo	2007	5-year nationwide agreement
Sweden	Telenor/Tele2	2009	Planned shared rollout of LTE
UK	O2/Vodafone	2009	Sharing of all new 2G and 3G sites
	Orange/3UK/ T-Mobile	2010	15,000 sites

SOURCE: Press releases; Vodafone; McKinsey analysis

There appear to be obstacles in the way of implementing site sharing including a lack of building permits, lengthy and opaque processes for obtaining permission to use government land, the choice of cost sharing methodology, and legal issues concerning cotenancy and subleasing. In addition, operators face very high rents for sites in Qatar, usually two to three times higher than European rents for comparable sites. However, there are indications in the market that site sharing is starting to take off as operators recognize the potential savings it offers. They are streamlining their processes and joint working arrangements to ensure Qatar has the best and most efficient mobile network possible. Additionally, the Ministry of Municipality and Urban Planning has also indicated to both operators that it will require more site sharing and camouflaging to avoid having two mobile towers next to each other.

ictQATAR currently has a clear understanding of the obstacles infrastructure sharing is facing and will continue to closely monitor developments on this front closely and assist where necessary. ictQATAR also recognizes that the industry is on track to initiate more site sharing in the near future.

3.2 Increasing Customer Benefits

Before assessing the benefits of competition to the Qatari market, it is important to keep in mind what a typical liberalization process entails. Telecom markets undertaking liberalization usually go through three phases before reaching an established state of competition.

1. **Phase 1 – Pre-competition**

   During this phase there is usually only one operator exercising a monopoly in the telecom market. Compared to markets with established competition, this phase is characterized by higher prices, lower quality of service, low innovation, and less than optimal availability of services.

2. **Phase 2 – Start of competition**

   During this phase, a second operator typically enters the market and starts deploying its network. The freshly deployed network usually has lower quality of service – mostly indicated by network quality metrics such as the dropped calls rate – for a variety of reasons, including setbacks in setting up a complete new network and interference between the new entrant and the incumbent's networks. In this phase, the second operator typically focuses on voice services, using pricing tactics to gain customers and penetrate underserved and less profitable segments. Innovation by both operators increases during this phase and the second operator slowly starts to gain higher-value customers.

3. **Phase 3 – Established competition**

   During this phase, prices more or less stabilize, the second operator's average revenues per user increase as it becomes established in high-value market segments, and innovation continues to rise. Quality of service from the second operator also starts to improve as the second operator has an almost fully deployed network and both operators have become used to the presence of the other's network, so interference is less frequent. Additionally, the second operator starts targeting the highest-value customers by entering additional market segments, such as data services. Realizing this, the incumbent seeks to improve its quality of service to retain its most valuable customers, usually resulting in increased investment and better customer service overall.

The Qatari mobile market is currently in phase two of the typical liberalization process and displays all the benefits and shortfalls of this phase, more or less. Customer benefits in the mobile sector have notably increased since the entry of the second operator.

However, the fixed sector has not yet seen any competition as it is currently in phase 1. Although 99 percent of households have fixed line coverage, broadband usage and speeds remain low, while broadband prices for both residential and business customers are high by international standards.

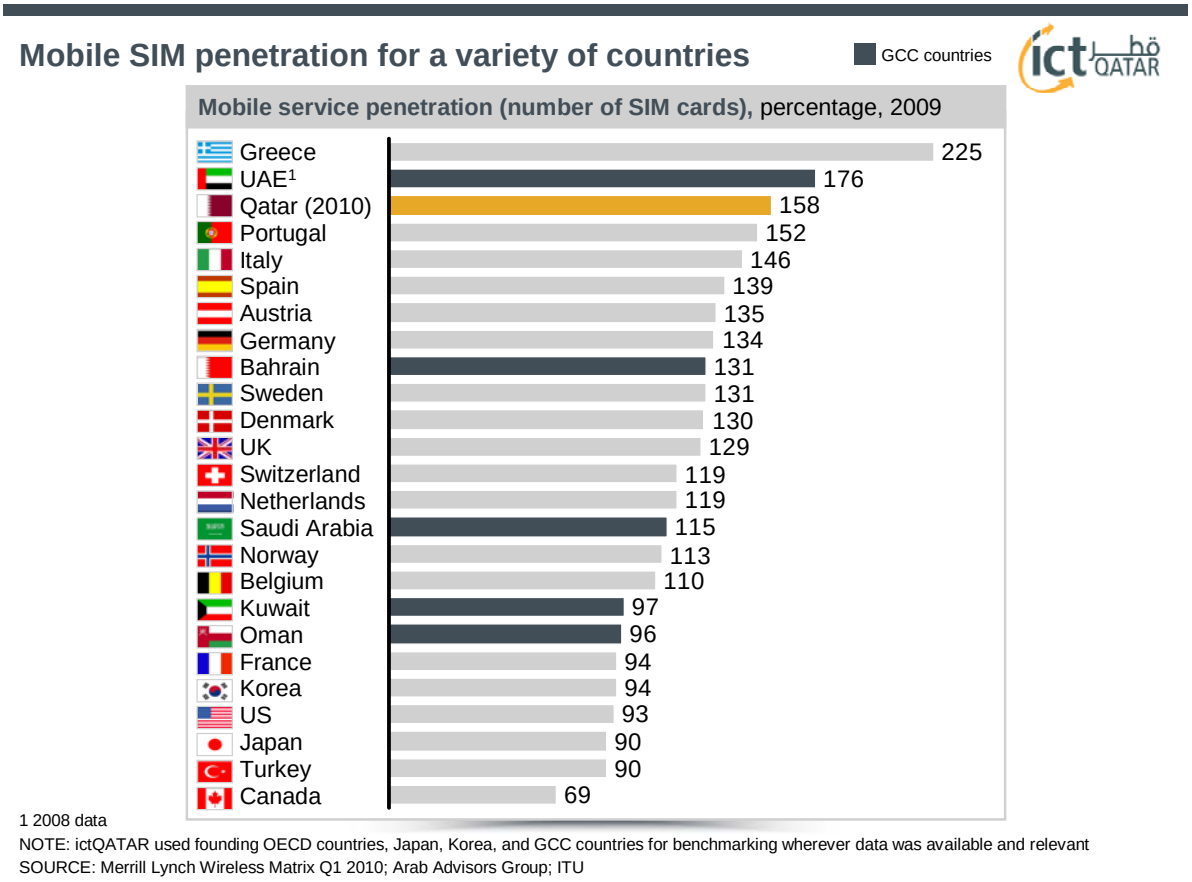
3.2.1 Mobile Customer Benefits

Competition in the mobile sector has begun to benefit customers in terms of greater service availability, price reductions, and innovation. However, quality of service remains an issue in Qatar.

3.2.1.1 Service Availability

Mobile services are readily available in Qatar and mobile penetration rates are among the highest in the world. The market is fairly saturated: with 158 percent penetration as measured by active SIM cards per capita, Qatar is the second most deeply penetrated market among the countries shown in Exhibit 10. While similar to market penetration in the UAE, mobile penetration in Qatar far exceeds that in other GCC countries.

EXHIBIT 10



1 2008 data

NOTE: ictQATAR used founding OECD countries, Japan, Korea, and GCC countries for benchmarking wherever data was available and relevant

SOURCE: Merrill Lynch Wireless Matrix Q1 2010; Arab Advisors Group; ITU

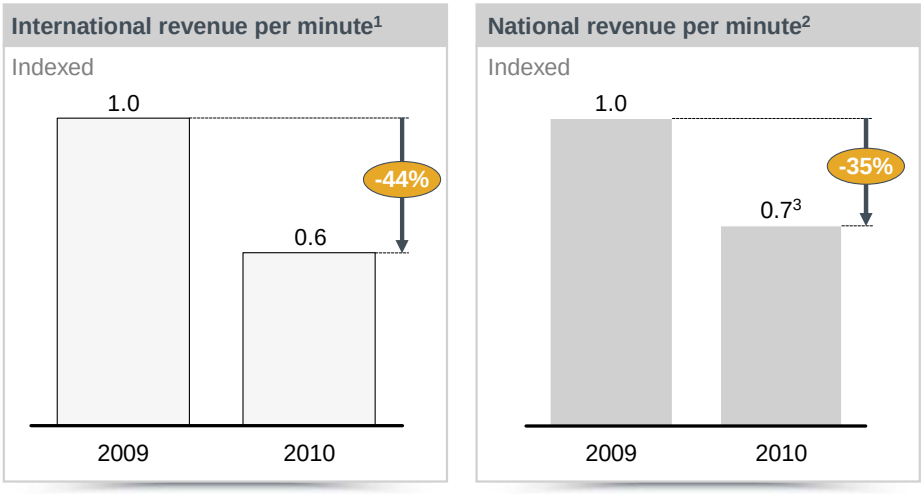
Penetration grew from 110 percent at the end of 2008 to 158 percent at the end of 2009 probably as a result of "double SIMing," since many users bought a second SIM card to benefit from the promotions of both operators. In addition, operators have extended penetration in additional market segments of the population, such as blue-collar workers.

3.2.1.2 Prices and Innovation

Consumers are enjoying large declines in call prices on both international and national calls. Since the onset of competition, international voice call revenue per minute (RPM) has fallen by 44 percent and national call RPM has fallen by 35 percent (Exhibit 11).

EXHIBIT 11

Evolution of national and international prices in the past 2 years

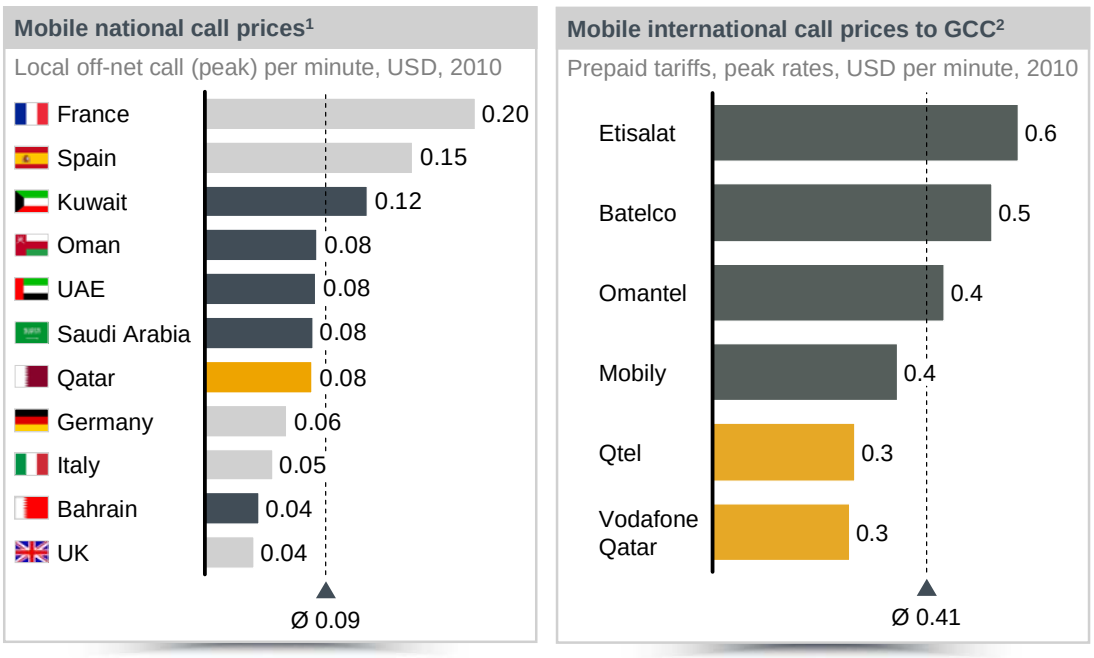


1 All international revenues divided by all international minutes
2 Qtel mobile to mobile on-net, fixed to mobile, and Vodafone on-net and off-net calls
3 Includes Vodafone promotion of free on-net minutes.
4 H1 2010
SOURCE: Operators' data requests

Prices in Qatar are now in line with most international benchmarks, especially for mobile national calls. The average off-network (peak) call price per minute is USD 0.08, as it is in most GCC countries (Exhibit 12).

EXHIBIT 12

National and international call prices for a variety of countries



1 Consumer postpaid plan of incumbent considered; except Kuwait (Wataniya)
2 Incumbent's current tariffs
NOTE: ictQATAR used founding OECD countries, Japan, Korea, and GCC countries for benchmarking wherever data was available and relevant
SOURCE: Teligen; operators' web sites; 2009 Qtel annual report

In a similar way, innovation in the mobile market has increased considerably since liberalization started in the telecom market in Qatar, as indicated by the significant increase in the number of different products available to customers. For example, the number of prepaid plans available in the market has gone from one in 2006 to four in 2010.

The market has also seen innovation in the form of new offers, such as Vodafone and Qtel's money transfer services, which allow customers to do international banking transactions using their mobile phones, or Qtel's new prepay top-up method, which includes a facility using Facebook.

3.2.1.3 Quality of Service

Mobile quality of service has been mixed since the launch of competition. Both Qtel and Vodafone are generally compliant, but still have to fully satisfy some parameters in four of their seven mobile quality of service obligations (Exhibit 13).

EXHIBIT 13

Mobile quality of service indicators – obligation complaint

✓ Compliant ✗ Noncompliant

Parameter	Measure	Qtel 2010[1]	Vodafone 2009[2]
• Network call setup success rate	• Network **10% busiest part call setup success** rate at busy hour	✓	✓
• Network dropped call rate	• Network 10% busiest **part dropped call rate** at busy hour	✓	✓
• Network quality	• Percentage of network with adequate call setup and dropped call rates	✗	✓
• Billing correctness complaints	• Percentage of users who issue bill complaint	✓	✓
• Time to resolve billing complaints	• Within 15 working days	✗	✗
	• Within 25 working days	✗	✗
• Network availability	• Percentage of time when 80% of radio capacity is operational	✓	n/a
		4 compliant 3 noncompliant	4 compliant 2 noncompliant 1 not available

1 Average January - September 2010
2 Average September - December 2009 (latest available report)
SOURCE: Operators

However, it is important to note that similar trends have been observed in other markets during the first year of liberalization. Typically, some of the metrics, especially those related to network quality, deteriorate due to the interference of the incumbent's network with the freshly installed second operator's network. These metrics generally start improving one or two years after the start of competition and we hope to witness such an improvement in Qatar as well.

3.2.2 Fixed Customer Benefits

Qatar's fixed market is characterized by very high availability of voice services covering 99 percent of the households. However, in data services the fixed market remains underdeveloped by international standards. Penetration of broadband and speeds remain low in Qatar, and the costs of services – including residential broadband, fixed broadband, and leased lines – are significantly higher than in peer countries. Moreover, although most of its quality of service indicators improved in the past year, Qtel remains largely noncompliant

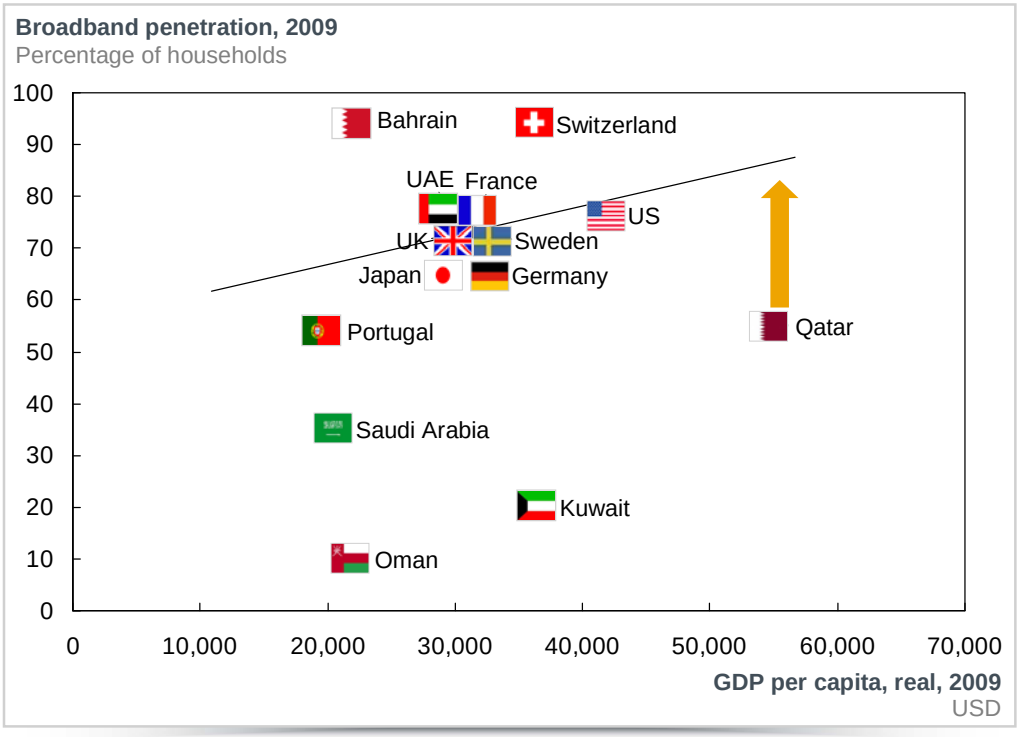
with its license obligations.

3.2.2.1 Broadband Availability

Qatar's broadband penetration rate of 55 percent, as reported in 2009, is low compared to international benchmarks, especially given its relatively high GDP per capita (Exhibit 14).

EXHIBIT 14

Broadband penetration vs. GDP per capita

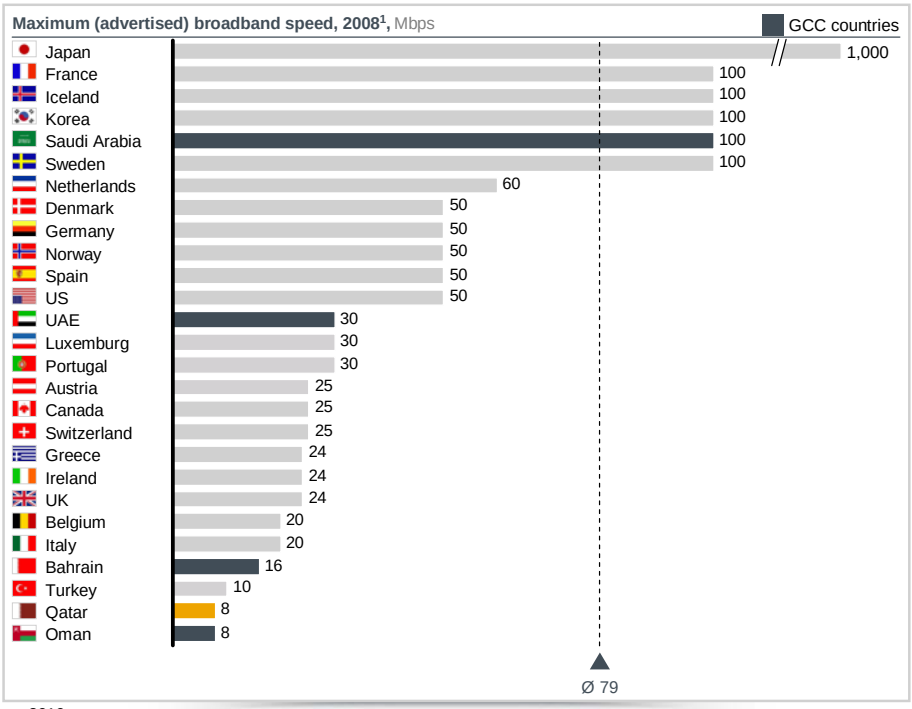


NOTE: ictQATAR used founding OECD countries, Japan, Korea, and GCC countries for benchmarking wherever data was available and relevant
SOURCE: Pyramid Research; Arab Advisors Group Reports; Point Topic; EIU; team analysis

Furthermore, broadband service choices for residential broadband customers are limited to 1 Mbps, 2 Mbps, 4 Mbps, and a maximum speed of 8 Mbps, well below the international benchmark average of 79 Mbps in 2008 (Exhibit 15). Around 90 percent of residential and business broadband subscribers remain on speeds equal or less than 1 Mbps.

EXHIBIT 15

Benchmarking of maximum broadband speed for a variety of countries



1 GCC data is from 2010
NOTE: ictQATAR used founding OECD countries, Japan, Korea, and GCC countries for benchmarking wherever data was available and relevant
SOURCE: OECD broadband indicator; operator's Web sites

3.2.2.2 Prices and Innovation

Although residential and business broadband prices are in line with GCC benchmarks, they remain more than twice as high as the average prices in Europe. Qatar's average price for medium speed residential broadband (4 Mbps), at nearly USD 76 per month, is among the lowest in the GCC but more than double the EU15 average of USD 32 per month (Exhibit 16). The average business broadband price in Qatar is USD 245, in line with GCC benchmarks but over four times the EU15 average of USD 57 per month.

The high cost of international connectivity in Qatar is one factor behind these relatively high broadband prices. This cost should decline with the introduction of additional competition among providers of the international links.

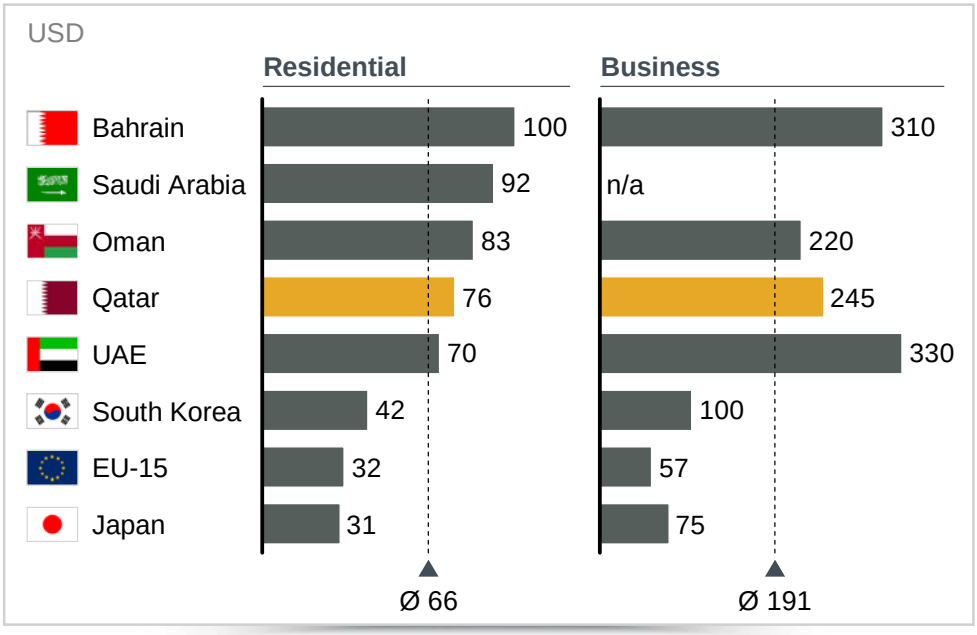
Innovation is low in the fixed broadband market: as noted above, around 90 percent of customers subscribe to very low speeds (1 Mbps) and the highest speed advertised in the

market is 8 Mbps.

EXHIBIT 16

Residential and business broadband prices

Medium-speed (1 - 4 Mbps) broadband services
USD/PPP per month, VAT included, 2010

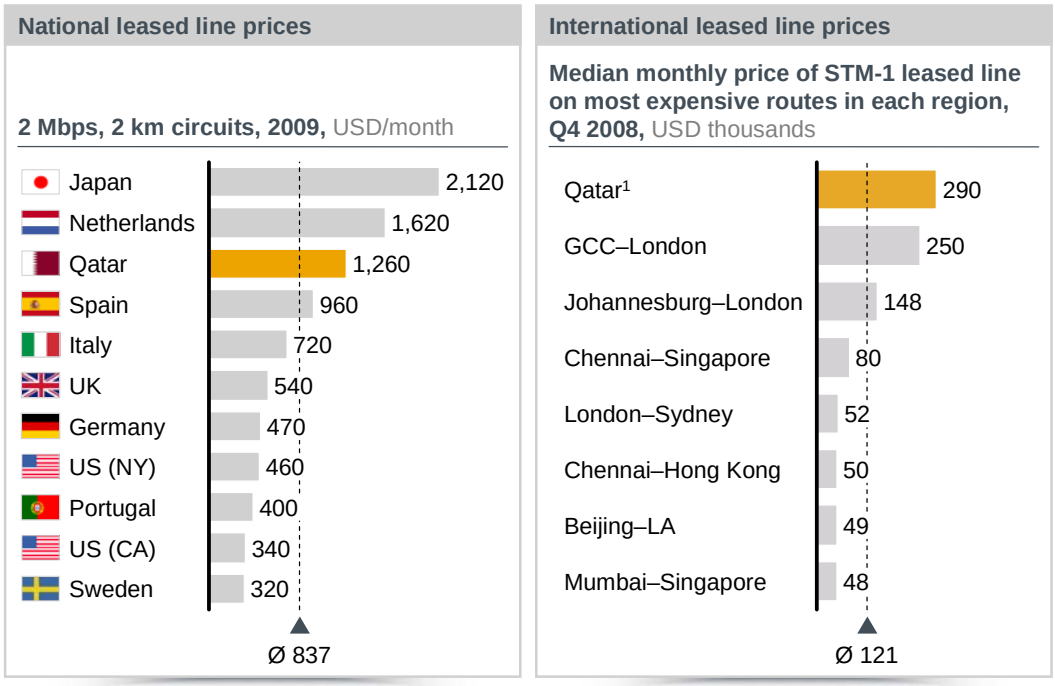


NOTE: ictQATAR used founding OECD countries, Japan, Korea, and GCC countries for benchmarking wherever data was available and relevant
SOURCE: OECD broadband indicator; operators' web sites; Technology Policy Institute

Leased line prices in Qatar are also higher than international benchmarks. In 2009, the price for a basic leased line of 2 Mbps on 2 kilometer circuits in Qatar was USD 1,260 per month, over USD 500 greater than the benchmark average of USD 731. The high prices are also seen in the international leased line market. The cost of an SMT-1 international leased line in Qatar is around USD 290,000 compared to a benchmarked average of USD 121,000 (Exhibit 17).

EXHIBIT 17

Local and international leased line prices



1 International SMT-1 leased line price for Qatar taken from Qtel service tariffs application 101 published in ictQATAR's Web site. Price includes half circuit only, and no international destination is specified

NOTE: ictQATAR used founding OECD countries, Japan, Korea, and GCC countries for benchmarking wherever data was available and relevant

SOURCE: Progress Report on the Single European Electronic Communications Market (15th report); ictQATAR; Telegeography

3.2.2.3 Quality of Service

Quality of service for Qtel has on the whole improved in the fixed sector, with 21 quality metrics showing an improvement between October 2009 and September 2010 while five showed a decline. However, quality of service still needs to improve significantly since 14 of the 30 indicators monitored do not yet comply with the operator's license obligations (Exhibit 18).

EXHIBIT 18

Fixed quality of service indicators – Qtel only

✓ Compliant/improved
✗ Noncompliant/worsened
M Monitoring
U Uncharged

	Parameter	Measure	Obligation compliant[1]	Improvement[2] (2009 - 10)
Fixed voice	Supply time for initial telephone line connection	• Within 5 working days	✗	✓
		• Within 9 (5 + 4) working days	✗	✓
	Fault rate	• Faults/access line/year	✗	✓
	Fault repair time	• Faults fixed < 24 hours	✗	✓
		• Faults fixed < 72 hours	✗	✓
	Successful call ratio	• National calls	✓	✗
		• International calls	✓	✓
	Call setup time	• Mean value national calls (sec)	M	U
		• Mean value international calls (sec)	M	✗
	Bill correctness complaints	• Bill complaints/subscriber	✓	✓
	Time to resolve billing complaints	• Within 20 business days	✗	✓
		• Within 30 business days	✗	✓
	Availability of tel. exchange equipment	• In service time/total time	✓	U
	Availability of access network	• In service time/total time	✓	✗
Broad-band	Supply time for initial broadband line connection	• Within 10 working days	✗	✓
		• Within 15 (10+5) working days	✗	✓
	End-to-end network availability	• Time in service/total time	✓	✗
	Minimum access throughput	• Minimum access speed within 4 km	✓	U
	Fault rate	• Faults/access line/year	✗	✓
	Fault repair time	• Fixed within 24 hours	✗	✓
		• Fixed within 72 hours	✗	✓
	Customer service support	• Complaints/100 subscribers	✓	✓
	Bill correctness complaints	• Bill complaints/100 subscribers	✓	✗
	Time to resolve billing complaints	• Within 20 business days	✓	✓
		• Within 30 business days	✓	✓
	Network latency	• Round trip delay	✓	✓
	Bandwidth utilization	• Highest bandwidth utilization	✓	✓
Leased lines	Availability	• Minutes availability/total minutes	✓	✓
	Provisioning time	• Percentage of L.L. provided within client timeline	✓	n/a
	Mean time to repair (hours)	• (Total hours to repair faults/total L.L. faults reported)	✓	✓
			16 compliant 14 noncompliant	24 improved/ unchanged 5 worsened

1 2010 average
2 Measured from October 2009 to September 2010
SOURCE: Operators

3.3 Health of the Industry

The telecommunications industry in Qatar remains healthy after a period of strong revenue growth. However, quarterly revenue growth has slowed since the end of 2009. EBITDA margins have also been falling from their very high levels before liberalization in 2007. Although they remain well above those seen in more advanced telecom markets, they are below those observed in other GCC countries. Margins may fall further if there are more reductions in national and international call prices potentially putting investments at risk.

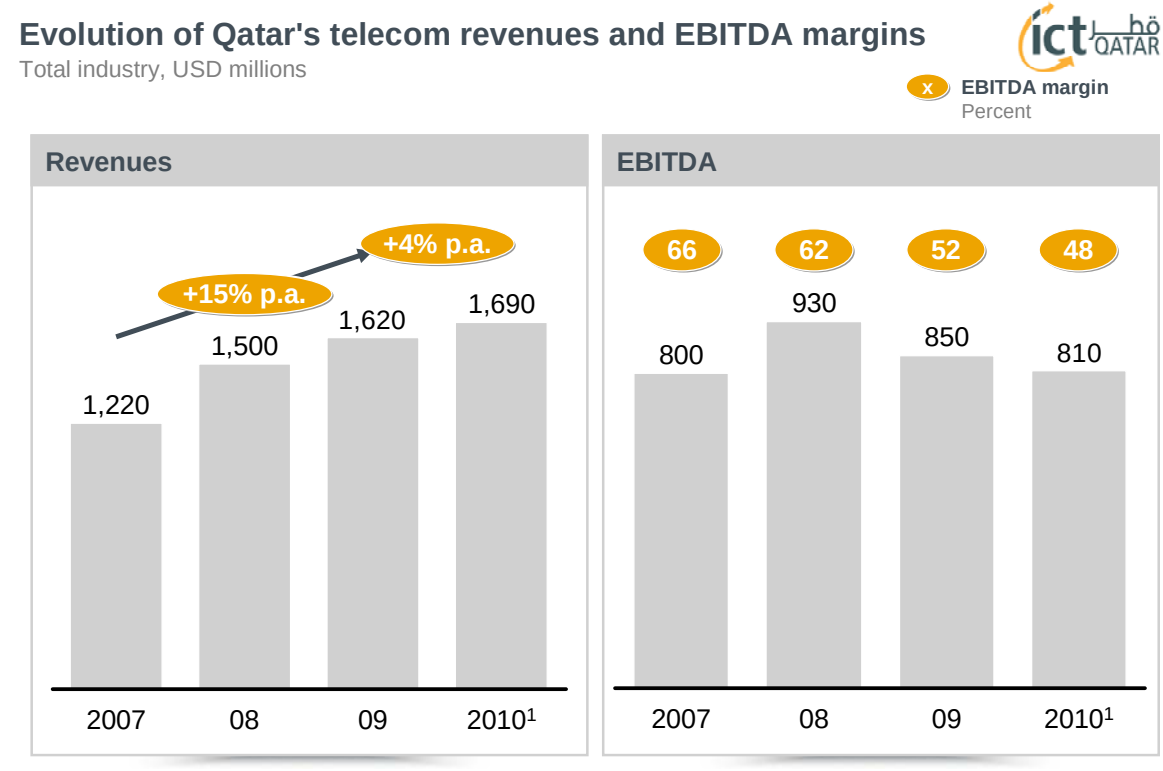
Despite this risk, ictQATAR believes the telecom sector in Qatar has substantial opportunities for growth in mobile data and fixed broadband services.

3.3.1 State of Sector Health

Revenue growth may have slowed and profit margins significantly reduced, but the market

remains healthy with profit margins considerable exceeding European averages. Since the start of competition, the market's revenue growth has slowed from 15 percent per annum between 2007 and 2009 to 4 percent per annum in 2010, and EBITDA margins have declined to 48 percent in 2010 from a very high preliberalization level of 66 percent in 2007 (Exhibit 19).

EXHIBIT 19



1 Extrapolated from H1 2010
SOURCE: Qtel data request; Qtel annual reports; Arab Advisors Group

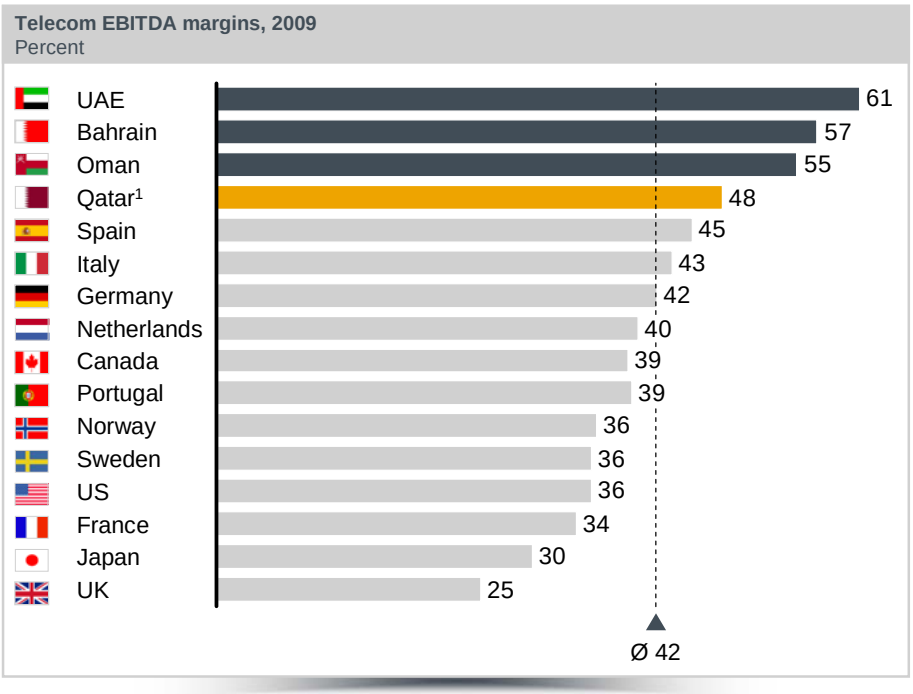
Although such declines are significant and place prices in Qatar below the GCC averages, EBITDA margins are still markedly higher than those seen in selected peer countries in 2009 (Exhibit 20). This EBITDA level was substantially lower in Europe, where the average EBITDA margin for major European incumbents was 43 percent in 1997[4], one year after the

[4] EBITDA incumbent average includes fixed and mobile services for: British Telecom, Deutsche Telekom, France Telecom, Koninklijke PTT Nederland (KPN), Portugal Telecom, TeleDenmark, Telecom Italia, Telefónica, and Swisscom. Goldman Sachs, Pan-European Telecoms Report, August 1999.

liberalization of the mobile industry and one year before the fixed telecom market opening.

EXHIBIT 20

Benchmarking of EBITDA margins of telecom markets for a variety of countries



1 2010 data
Note: ictQATAR used founding OECD countries, Japan, Korea, and the GCC countries for benchmarking wherever they were available and relevant
SOURCE: Bloomberg; Merrill Lynch Wireless Matrix and Wireline Matrix; Arab Advisors Group

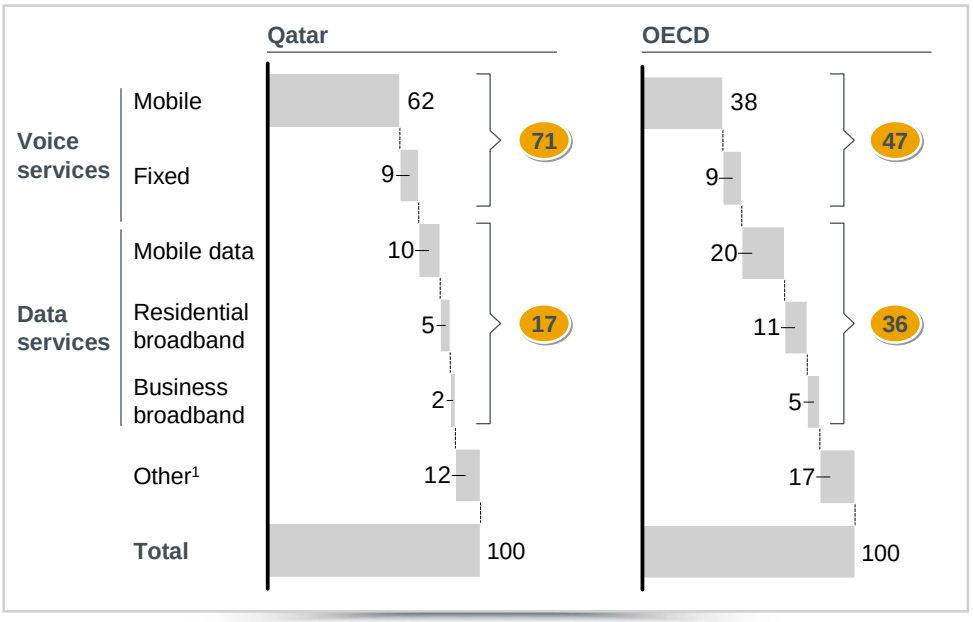
3.3.2 Risks and Opportunities

Qatar's telecom revenues are heavily skewed towards international voice services, where prices have declined considerably in the past two years. If this trend continues, margins will continue to decline. On the other hand, several market segments, in particular fixed and mobile data services, remain underdeveloped and could represent room for future industry growth (Exhibit 21). Currently these services represent 17 percent of the revenues in Qatar compared to 36 percent in OECD countries.

EXHIBIT 21

Breakdown of telecom revenues for Qatar and for the average of OECD countries

Revenues breakdown, 2010, percent



1 Includes Internet data services, dial-up Internet, cable TV, calling card, discounts, and fixed value-added services
SOURCE: Pyramid research; operators' data requests

3.3.2.1 Industry Risks

71 percent of industry revenues are currently generated by voice services, as shown in Exhibit 22. This makes the two operators highly vulnerable to any declines in call prices. As described above, national and international RPMs have declined by between 35 and 44 percent since the start of competition and could fall even further.

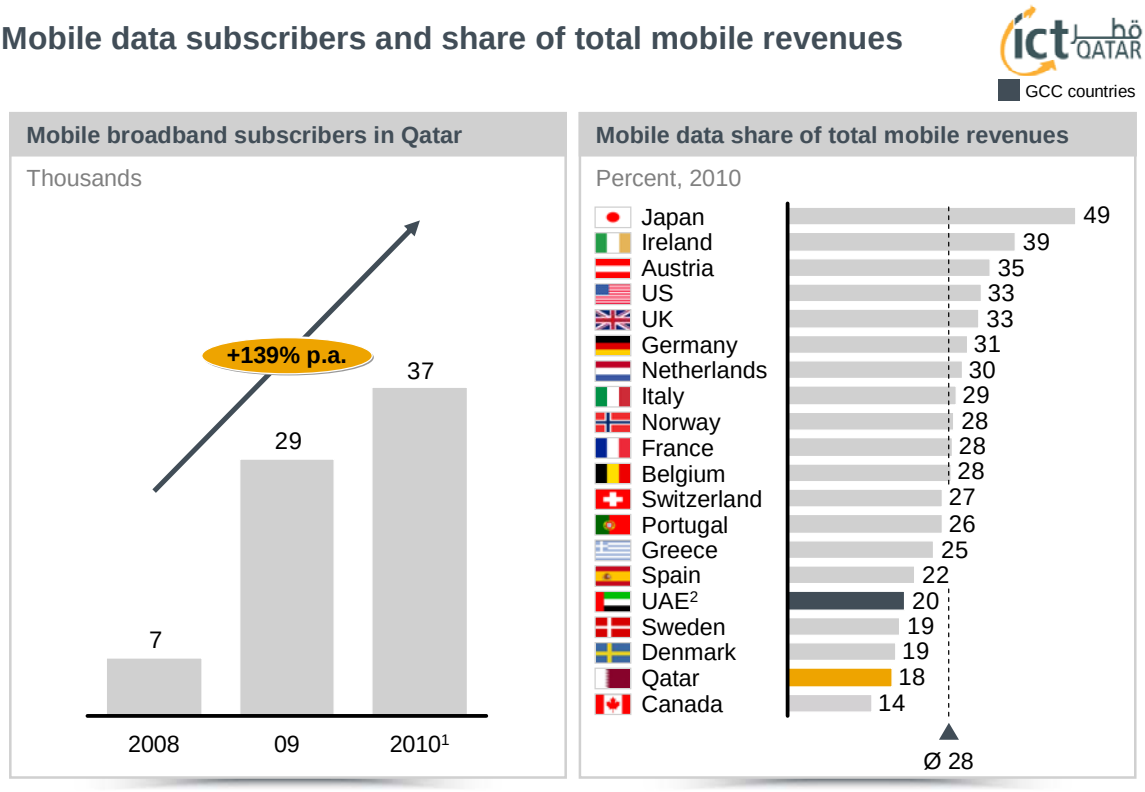
3.3.2.2 Industry Opportunities

Although growth in the voice area has slowed, there are other growth opportunities available to Qatari telecom operators that could promote industry health. One such opportunity is the mobile data market. This has boomed in the past two years, with a 139 percent average annual increase in the number of mobile broadband subscribers since 2008. The market will continue to expand with the advent of new applications, such as social networking and mobile TV, and lower prices for mobile data handsets. A similar boom has

occurred in the rest of the world. However, the share of mobile data revenues in total mobile revenues is still lower in Qatar than in developed nations, signaling room for further growth in the Qatari mobile data market (Exhibit 22).

EXHIBIT 22

Mobile data subscribers and share of total mobile revenues



1 Annualized figure 2 Etisalat only

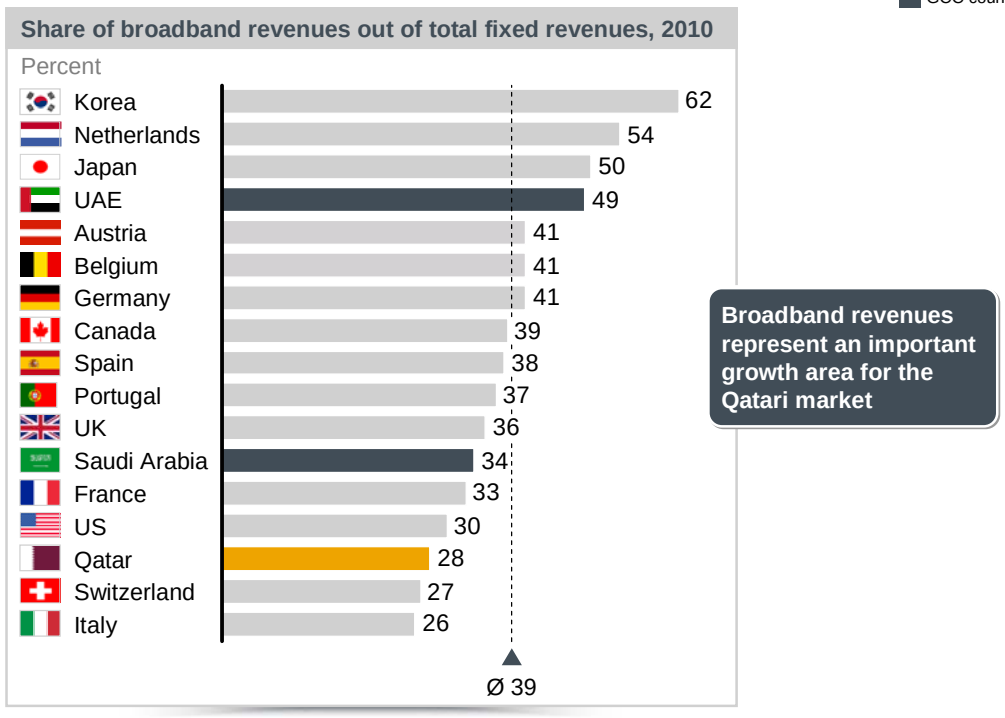
NOTE: ictQATAR used founding OECD countries, Japan, Korea, and GCC countries for benchmarking wherever data was available and relevant

SOURCE: Operators' data requests; Pyramid research

Broadband represents a second growth opportunity, this time in the fixed sector. As shown in Exhibit 23, the share of broadband in total fixed telecom revenues in Qatar is not only lower than the OECD average but also lower than in peer GCC nations such as the UAE and Saudi Arabia, where broadband revenues account for 49 and 34 percent of the countries' 2010 total fixed revenues, respectively (Exhibit 24); Qatar's total broadband revenues account for only 28 percent of its total fixed revenues, mainly because of the high price of broadband services and the lack of competition in this market. These factors limit service uptake in both the residential and business segments.

EXHIBIT 23

Benchmarking of broadband revenues as a percentage of total fixed revenues for a variety of countries



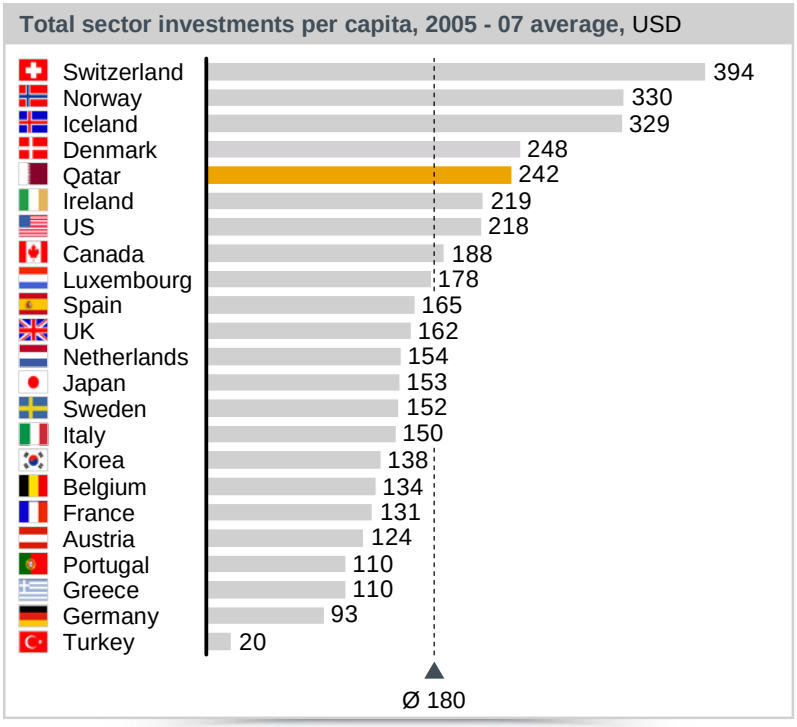
NOTE: ictQATAR used founding OECD countries, Japan, Korea, and GCC countries for benchmarking wherever data was available and relevant
SOURCE: Pyramid Report Q1 2010; operators' data requests

3.4 Investment Levels

Telecommunications investments in Qatar have sharply increased since 2006, and Qatar is now near the top of the OECD league table in investments per capita (Exhibit 24). This rise has been fueled mainly by a threefold increase in mobile market investments as a consequence of the start of liberalization, the increased competition in the sector and the population growth in the country.

EXHIBIT 24

Benchmarking of telecom investments per capita for a variety of countries



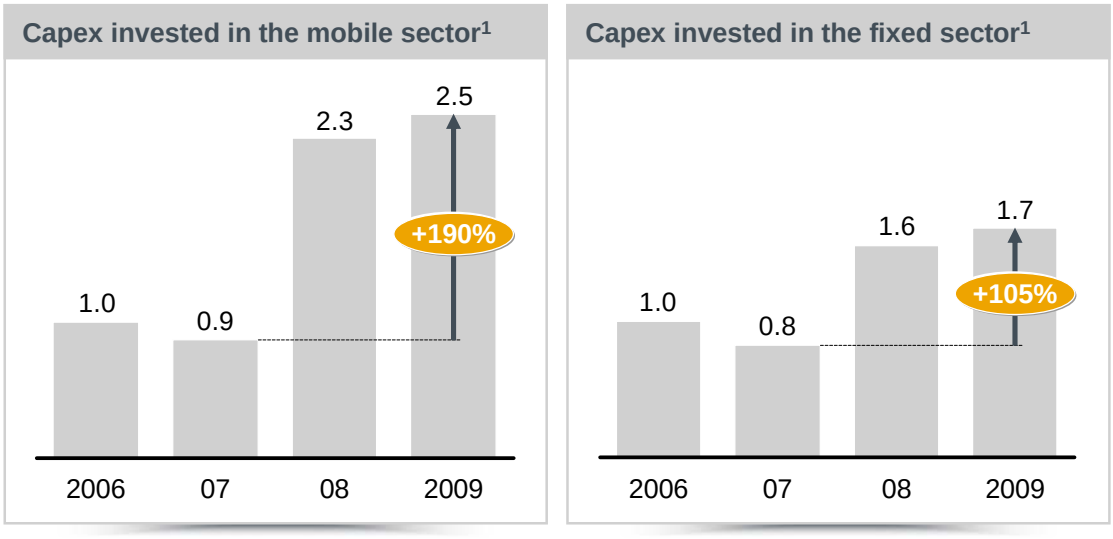
NOTE: ictQATAR used founding OECD countries, Japan, Korea, and GCC countries for benchmarking wherever data was available and relevant
SOURCE: OECD; Arab Advisors Qatar Telecom Market Landscape, April 2010

3.4.1 Mobile Investments

Mobile investments in Qatar have increased by 190 percent between 2007 and 2009, mainly driven by Vodafone's need to set up its network in the two years since its market entry and additional investments in network upgrades by Qtel (Exhibit 25).

EXHIBIT 25

Capex investments in the fixed and mobile sectors in Qatar
Indexed to 1.0



1 Excludes licenses and property
SOURCE: Arab Advisors Qatar Telecom Market Landscape, April 2010; annual reports; operators' data requests

3.4.2 Fixed Investments

Capital expenditures have also increased in the fixed sector, although not at the same pace as in the mobile sector. Fixed sector capex investments increased by 105 percent between 2007 and 2009 (Exhibit 25).

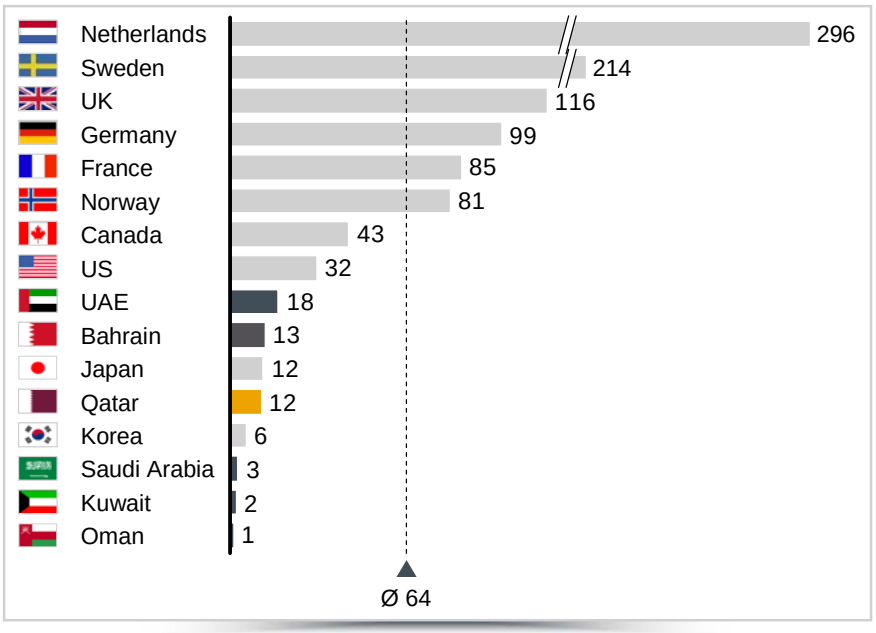
Qatar is in line with its GCC peers in terms of international connectivity speeds, measured in kbps per capita, but significantly lags Europe and US for this measure (Exhibit 26). However, international connectivity speeds and capacity in Qatar are likely to improve significantly given current investments by the government in two landmark projects. First is the Eshail Satellite (USD 300 million), expected to be launched in 2012 in response to Qatar's demand for content applications that are growing in popularity elsewhere in the Middle East and North Africa, such as video broadcasting, enterprise communications, and government services. Second is the Gulf Bridge International (USD 445 million), a subsea fiber cable submarine project that will provide extra capacity for international connectivity

to telecom operators and Internet service providers in Qatar and the Gulf region. This project will become operational in 2011.

EXHIBIT 26

Benchmarking of per capita international connectivity for a variety of countries

kbps per capita, 2009



NOTE: ictQATAR used founding OECD countries, Japan, Korea, and GCC countries for benchmarking wherever data was available and relevant
SOURCE: Telegeography, ITU

3.5 Availability of Services

Telecommunications services are widely available in Qatar with mobile voice/data and fixed services covering a very large share of the population.

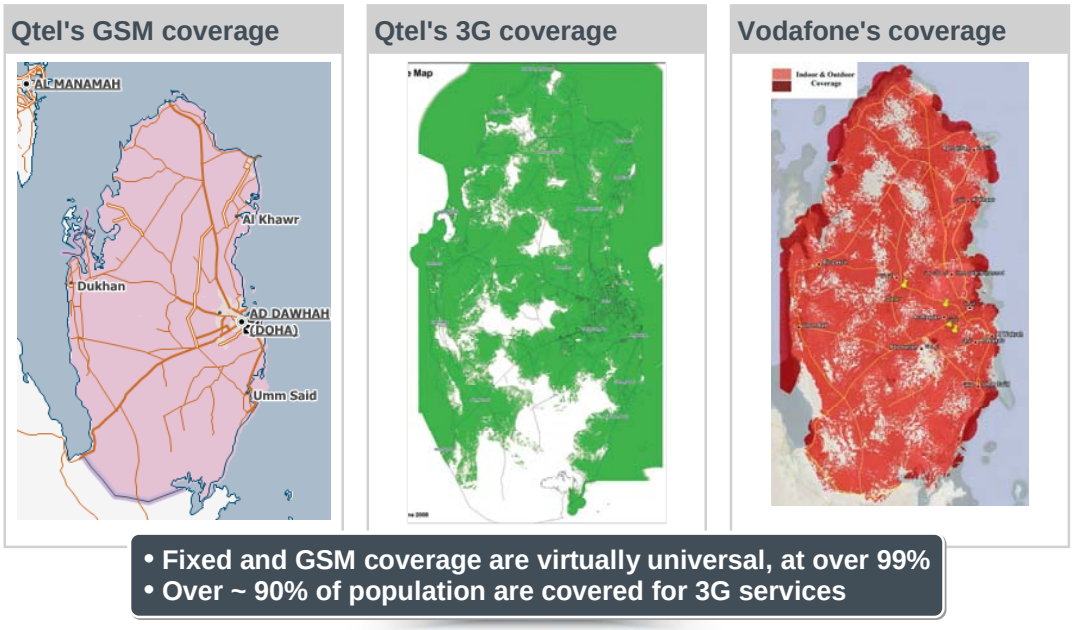
3.5.1 Service Coverage

Qatar has a very high fixed and mobile coverage, reflecting its highly concentrated population. Mobile and fixed voice and broadband services cover 99 percent of the country's population, and 3G services more than 90 percent (Exhibit 27). Almost anyone who wants a fixed or mobile connection in Qatar can have one.

EXHIBIT 21

Fixed and mobile network coverage in Qatar

Area network coverage



SOURCE: GSM World; World Trade Press; Qtel Web site; ictQATAR; Virgin Mobile Web site

3.5.2 Future Products and Technologies

Qatari mobile operators have been improving their services by bringing some of the latest products and technologies into the national mobile market. These include:

- Mobile data products: broadband/dongle, hot spots, and roaming mobile Internet
- Mobile handsets: iPhone 4, BlackBerry, Samsung Galaxy
- Mobile applications/products: navigation/tracking, mobile TV, bulk SMS, money transfers, and music streaming

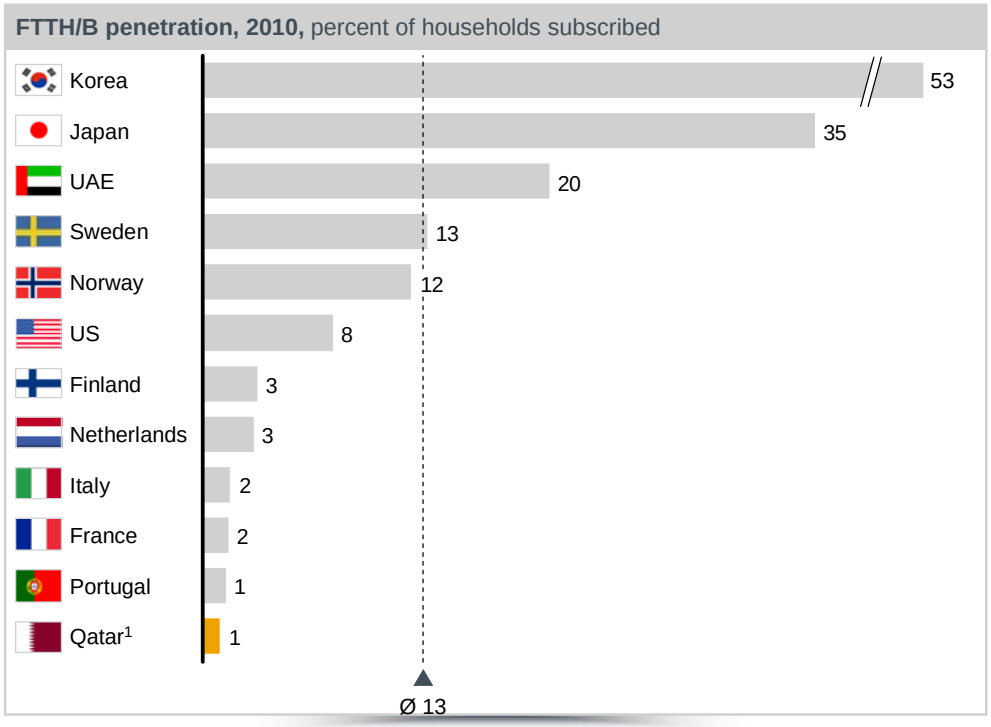
Regarding future technologies, operators are planning to introduce Long-Term Evolution (LTE) to the Qatari telecom market as soon as 2012.

In contrast, the fixed sector has not taken up new technology as fast as the mobile sector.

Exhibit 28 shows that the number of subscribers with access to fiber technology, currently considered the most technically advanced in the fixed sector, is very low in Qatar compared to benchmarked countries. However, this situation may be changing. Qtel recently announced a strategic alliance with Chinese equipment vendor Huawei to roll out a next-generation high-speed broadband access network primarily based on Fiber-to-the-Home (FTTH) with Gigabit Passive Optical Network (GPON) technology[5].

EXHIBIT 28

Fiber subscription in Qatar lags behind peer countries



NOTE: ictQATAR used founding OECD countries, Japan, Korea, and GCC countries for benchmarking wherever data was available and relevant
1 Qatar's penetration rate is based on 2,500 fiber subscriptions reported
Source: FTTH Council September 2010, ITU

[5] Gulf Times, Roll-Out for Qatar's New Fibre Network, September 29, 2010.

4 Sector Review Summary and Questions

The sector review presented above raises a number of questions concerning the past development of the sector and how to promote its evolution in line with Qatar's overall economic goals. This section presents a very brief summary of the sector review and poses questions to which ictQATAR would like operators, stakeholders, and the public to provide perspectives and opinions.

4.1 Contribution of Telecommunications Sector to Qatar's Economy

4.1.1 Industry Evolution

The telecom sector in Qatar has developed strongly in the past five years, growing at even faster rates than the country's GDP.

Question 4.1.1 What role should ictQATAR play in ensuring continued sector growth?

4.1.2 Sector Contribution to the Economy

The telecom sector is an important contributor to Qatar's economy, but its contribution could be bigger.

Question 4.1.2 What are the main factors inhibiting the sector from contributing more to the overall economy, and how should these be addressed?

4.1.3 ICT Initiatives

ictQATAR is undertaking several initiatives to boost both supply and demand for telecom services.

Question 4.1.3 What other initiatives can ictQATAR implement to facilitate an increase in both supply and demand for telecom services in Qatar?

4.1.4 Regulatory Framework

Since liberalization, ictQATAR has put in place a large number of regulatory policies governing a range of issues from numbering and facility sharing to wholesale access obligations.

Question 4.1.4 What other legal initiatives or policies could be introduced in the next three years? Please rank them in order of their importance for supporting the continued development of the telecom sector in Qatar.

4.2 Encouraging Competition

4.2.1 Competition in the Mobile Sector

Competition in the mobile sector has developed strongly as two mature operators have brought international best practices and innovative products to the market. The second mobile operator has entered the market successfully.

Questions 4.2.1 To what extent has the introduction of competition in the mobile sector been successful in Qatar? What additional measures could be taken by ictQATAR to promote more competition?

4.2.2 Competition in the Fixed Sector

Competition in the fixed sector has barely evolved after liberalization, given that the second fixed license was issued to Vodafone only in April 2010.

Question 4.2.2 What are the key challenges to introduce competition in the fixed market in Qatar?

4.2.3 Access to Property, Site Sharing, and Rights-of-Way (RoW)

Despite a regulatory framework that facilitates access to property, site sharing, and RoW, the telecom market in Qatar has seen limited facility sharing between operators.

Question 4.2.3 What can be done to improve access to property, site sharing, and RoW?

Question 4.2.4 What additional role should ictQATAR play, if any, to promote access to property, site sharing, and greater use of RoW in Qatar?

4.3 Increasing Customer Benefits

4.3.1 Mobile Customer Benefits

Competition in the mobile sector has begun to benefit customers in terms of service availability, price reductions, and innovation. However, quality of service remains an issue.

4.3.1.1 Service Availability

Mobile services are widely available. Each person in Qatar currently has an average of 1.6 SIM cards, one of the highest penetration rates in the world.

Question 4.3.1.1 Does ictQATAR have any further role to play to encourage service availability?

Question 4.3.1.2 What other type of mobile services should be available in Qatar?

4.3.1.2 Prices and Innovation

Prices of international and national mobile phone calls have declined considerably in Qatar in the past three years. Innovation (i.e., new offers for different segments as well as new services) has also increased significantly, and customers can now choose from a variety of offers.

Question 4.3.1.2.1 How do you expect mobile prices to evolve in the future, and how will this evolution affect the industry?

Question 4.3.1.2.2 How do you see the future of innovation in the mobile market, and what could ictQATAR do, if anything, to encourage continued innovation in the mobile market?

4.3.1.3 Quality of Service

Quality of service indicators show mixed results with no clear improvement trend in some areas. Both telecom operators, Qtel and Vodafone Qatar, currently comply with 4 out of 7 quality of service obligations imposed by ictQATAR.

Question 4.3.1.3.1 Why does quality of service remain low in the mobile industry in Qatar?

4.3.2 Fixed Customer Benefits

The fixed sector in Qatar offers high availability of fixed voice services. Despite strong growth in broadband penetration, however, broadband services remain underdeveloped compared to international benchmarks.

4.3.2.1 Broadband Availability

Broadband is available to half of the households in Qatar and speeds remain quite low: around 90 percent of customers (business and residential) subscribe to speeds of 1 Mbps or lower.

Question 4.3.2.1.1 What steps should be taken by operators to improve the availability of broadband services and increase broadband speeds in Qatar?

Question 4.3.2.1.2 What role can ictQATAR play in the industry to help increase broadband availability and speeds?

4.3.2.2 Prices and Innovation

The prices of broadband products in Qatar are in line with those in other GCC markets but remain high compared to prices in more advanced telecom markets. High costs of international connectivity are keeping broadband prices in Qatar high but are expected to decline with the introduction of extra international capacity from Gulf Bridge International. Innovation is low in this market as there is very limited competition in the area.

Question 4.3.2.2 What steps can be taken to make broadband more affordable and to create more innovation within the sector?

4.3.2.3 Quality of Service

Despite improvements in quality of service in the fixed sector since 2009, there is room for further improvement given that the fixed operator complies with only 16 out of 30 service quality indicators in this area.

Question 4.3.2.3 Why does quality of service remain substandard in the fixed industry in Qatar?

4.4 Health of the Industry

4.4.1 State of Sector Health

The sector remains healthy by international standards, but revenue growth is slowing down and EBITDA margins have fallen.

Question 4.4.1 What are your expectations regarding the evolution of the telecom sector's financial health in the next three years? What conditions are necessary for further strong development in this sector?

4.4.2 Industry Risks

Given the sector's high dependence on voice revenues, further substantial price declines in voice services may affect the health of the industry and its development going forward.

Question 4.4.2.1 What can the industry do to reduce the high dependence on voice revenues?

Question 4.4.2.2 What additional risks do you see that could jeopardize the financial health of the industry?

4.4.3 Industry Opportunities

Development of the mobile data market in Qatar is one growth opportunity for the sector and broadband is another. In Qatar, the share of broadband services in total fixed revenues is quite low compared to other GCC countries and other more advanced telecom operators.

Question 4.4.3.1 To what extent will mobile and fixed data provide a sufficient opportunity for the industry to grow further?

Question 4.4.3.2 What other opportunities will fuel future growth, and what role (if any) should ictQATAR play in facilitating such growth?

4.5 Investment Levels

4.5.1 Mobile Investments

Investment levels increased 190 percent in the mobile sector in Qatar in the past three years.

Question 4.5.1.1 To what extent are current investment levels sustainable rather than a temporary phenomenon?

Question 4.5.1.2 What role can ictQATAR play (if any) to boost further investments in the mobile industry?

4.5.2 Fixed Investments

The fixed sector has also benefited from higher investments, although growth in fixed sector investments of 105 percent over the review period has been significantly lower than growth in mobile investments.

Question 4.5.2 What role (if any) can ictQATAR play in increasing levels of investment in the fixed industry in Qatar?

4.6 Availability of Services

4.6.1 High Coverage

Qatar enjoys widespread coverage of its fixed (fiber and copper) and mobile (2G and 3G) telecom services.

Question 4.6.1 Should any services be subject to a universal coverage requirement?

4.6.2 Future Technologies and Products

The Qatari mobile telecom market has adopted the latest technologies available in data products, handsets, applications, and infrastructure. However, the fixed sector still has some way to go to implement FTTH networks, which is considered to be the fixed network technology of the future.

Question 4.6.2.1 What in your view is hindering the adoption of new technologies, particularly FTTH, in the fixed sector in Qatar?

Question 4.6.2.2 What role (if any) should ictQATAR play in promoting adoption of new technologies?

5 Draft Recommendations and Questions

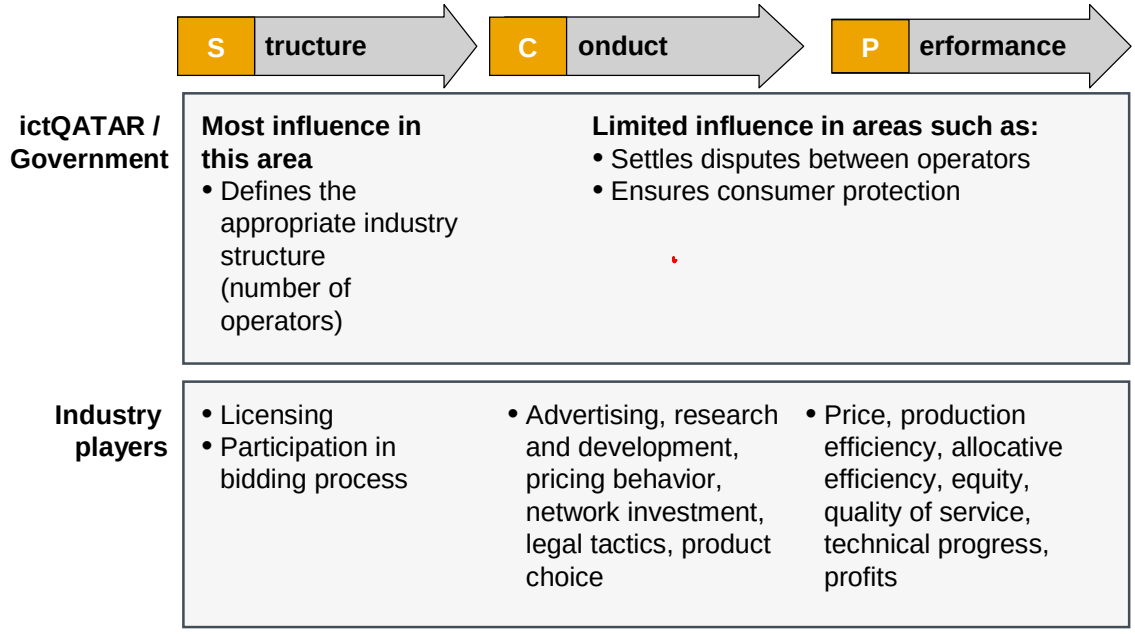
This section provides several draft recommendations to guarantee the continued successful development of the telecommunications sector in the country. Although these recommendations are not exhaustive and obviously do not yet include the comments on this review that different parties involved will provide, we believe it is important to share them at this stage. ictQATAR would like to have the views of the operators, industry stakeholders, and the public on these draft policy recommendations so it can promptly address the issues identified in the sector review.

However, before going into the draft recommendations, it is important to make clear what the roles of the State of Qatar and of ictQATAR are and what they can do and cannot do for the industry. Exhibit 30 shows this by using the Structure, Conduct and Performance (SCP) industry framework. The State of Qatar and ictQATAR can influence the structure of the market by defining the number of players that will participate in the sector. This could happen by either creating more infrastructure-based (new players entering the market with their own infrastructure) or service-based competition (new players using the incumbent's network infrastructure using bitstream and resale type of services). The State of Qatar and ictQATAR can determine to a lesser extent the conduct and performance of players by settling disputes between operators and ensuring the appropriate protection of consumers.

Telecom operators participate in structure by acquiring licenses and define conduct by determining prices, quality of service, product offering, new technology uptake, and branding as well as advertising their services. Conduct in turn determines the performance levels of the industry in terms of profitability and investments.

EXHIBIT 30

ictQATAR's role in the telecommunications industry



Source: ictQATAR

5.1 Mobile Market Draft Recommendations

Given the current status of the mobile market, ictQATAR believes that the main decisions to be made by the SSR concern the entry of a new mobile player, the price approval process, and improvement in the quality of services. Spectrum policy, another important area for the mobile sector, is being addressed in a separate consultation process. We feel that, at this stage, there is little need to review other policies already in place.

Question 5.1.1 What additional policy issues should the SSR address?

Question 5.1.2 Which existing policies should be reviewed based on the SSR?

Drawing on its assessment of the mobile market, ictQATAR currently believes that:

- **A third mobile license is not immediately required in Qatar.** ictQATAR believes

that some significant benefits from competition, such as reduced prices, improved availability, and more customer choice, have already been achieved in Qatar. We expect other benefits, such as higher quality of service, to be realized in the near future after competition becomes embedded in the Qatari market. In addition, we believe that Vodafone has not had enough time to establish its business. Introducing a third operator now could threaten the financial health of the operators as well as the overall industry with no substantial consumer benefits. Therefore ictQATAR believes it would be premature to introduce a new mobile player into the market.

Question 5.1.3 Should an additional mobile operator be introduced immediately in Qatar? Please elaborate. If not, when would it be appropriate to do so?

- **Prices should continue to be closely monitored to ensure they remain above costs.** Prices have fallen sharply in the past two years and are now in line with international price benchmarks.

Question 5.1.4.1 Should ictQATAR maintain its current regulatory requirements of price reviews and approvals as prescribed by the Telecommunications Law and Licenses? What changes could be made to improve the tariff review and approval process?

- **Quality of service results should be periodically published on ictQATAR's Web site.** Quality of service remains a large issue for the mobile industry as a whole, with operators struggling to fulfill the seven QoS indicators established by ictQATAR.

Question 5.1.5 Would the periodical publication of individual quality of service indicators by ictQATAR create an incentive for operators to improve the quality of mobile services offered to customers?
Question 5.1.6 Are there other mechanisms ictQATAR could adopt to increase the quality of service in the mobile industry?

5.2 Fixed Market Draft Recommendations

At present, Qtel has most of the fixed voice and broadband subscribers in Qatar as competition has barely started since Vodafone Qatar received its fixed license in April 2010. Vodafone has only started to provide fixed services at The Pearl Development. ictQATAR believes the main policy decisions raised by this situation in the fixed sector concern incentivizing competition in the broadband market. At this stage, we feel there is little need to review other policies and legal requirements on rollout already in place.

Question 5.2.1 Are there other issues affecting the fixed sector that will be important for ictQATAR to look at apart from those already raised? Please explain.

Question 5.2.2 Of the legal requirements in place, which ones are working well? Which need to be reviewed? Please explain giving reasons.

Based on its assessment of the fixed market, ictQATAR believes that the best way to facilitate further competition in the fixed market is to speed up the QNBN implementation as this will increase infrastructure choice in the market. Complementary to the QNBN, there are three options for fostering the development of this market. These options are structured around two main dimensions: service-based versus infrastructure-based competition and time to implementation. It is important to highlight at this point that these are all preliminary options and they are set out here with the aim of eliciting industry stakeholders' views on them.

- **Speed up QNBN implementation.** ictQATAR accelerates the infrastructure and commercial deployment of the QNBN and reviews in two years the development of the fixed market. Specifically, QNBN could either build its own nationwide network infrastructure or lease Qtel's passive infrastructure (e.g., ducts and manholes) to lay out its own fiber network. QNBN will then offer access to this infrastructure on an equal and nondiscriminatory basis to licensed public telecom service providers, who will then deliver the final broadband services to the customer.

  The QNBN is designed to create infrastructure-based competition at the passive layer of the network, facilitating further service-based competition by licensed operators at the retail level of the network. QNBN could also deliver wider network coverage and help achieve Qatar's goal of offering everyone a broadband connection.

  The main drawback of this is that the success of the fixed market will be directly linked to the success of the QNBN. If its deployment is delayed, the fixed market in Qatar might not develop as fast as the country requires.

ictQATAR has three main not mutually exclusive alternatives to complement the QNBN implementation:

- **Option 1: Bring a new fixed licensed operator to the market.** In addition to infrastructure competition stimulated by QNBN, ictQATAR could introduce more retail competition in the fixed sector by allowing a third licensed operator with strong experience in the fixed sector to enter the market at the end of 2011. This operator could leverage the QNBN fiber infrastructure and compete with other established licensed operators by using service-based offers like bitstream or resale.

  This option could have the advantages of stimulating competition in the fixed market and potentially improving services offered to business and high-revenue-per-line customers as these will be potentially the most attractive market segments to start serving initially for a third service-based operator.

  However, a potential disadvantage of this option is that it carries no guarantee that the third licensed operator will invest in a nationwide network and, once established, the operator may choose to operate in the most profitable areas only.

- **Option 2: Enforce current license commitments to Vodafone Qatar.** In this option, ictQATAR presses for compliance with both the terms and conditions in existing fixed licenses to encourage operators to deploy a fiber network. After about two years, it reviews the fixed market and assesses the need to introduce a new fixed operator.

  The main advantage of this option, is that it encourages Vodafone Qatar to deploy in fixed network and comply with its coverage obligations. However, the disadvantages of this option are that it may perpetuate the current market situation, delaying the development of the fixed market in Qatar substantially.

- **Option 3: Introduce a new technology-neutral wireless local loop (WLL) operator in Qatar.** ictQATAR introduces a new WLL-licensed operator (can be the same as in Option 1) in the market that leases QNBN's core network and deploys its own WLL access network to provide voice and broadband services to customers in remote areas. An additional spectrum will need to be allocated to this new player in the market.

  The main advantage of this option is that a WLL operator can bring more competition in a cost-efficient manner for remote areas in Qatar. The principal disadvantage is that WLL will have to compete with other fiber retail providers,

making its business case difficult to achieve. A WLL operator will also provide lower broadband speeds making it difficult to compete with fiber operators.

Question 5.2.3 What is the role of the QNBN in developing infrastructure in the telecom sector? What role should existing players play in the QNBN?

Question 5.2.4 What impact will the QNBN have on future competition in the sector? What should be done to ensure industry structure continues to support competition?

Question 5.2.5 Which of the options listed above would be more appropriate to develop competition in the fixed market in Qatar?

Question 5.2.6 Are there any other options ictQATAR should consider**?**

Question 5.2.7 What role could new WLL technologies in Qatar potentially play in helping to further develop the broadband market?

- **There is no need to introduce carrier select or carrier preselect (CS/CPS).** ictQATAR is not planning to introduce CS/CPS to the Qatari fixed market in the near term. Use of CS and CPS has greatly declined in the past few years in developed nations, partly due to the abundance of VoIP and mobile telephony services. In addition, CS/CPS players will most likely prefer to compete in the lucrative international voice market and will therefore neither invest nor improve the quality of service in the telecom industry in Qatar.

Question 5.2.7 Should CS/CPS be introduced in Qatar? What could be the potential consequences of their introduction for the fixed voice market?

6 Instructions for Responding to this Consultation Document

6.1 Consultation Procedures

All interested parties are invited to submit responses to the questions identified in this document and to provide their views on any other relevant aspects. Comments should cite the number of the questions addressed or, if not responding to a particular question, the relevant section of the document.

ictQATAR asks that, to the extent possible, submissions be supported by examples or relevant evidence. Nothing included in this consultation document is final or binding, and ictQATAR is under no obligation to adopt or implement any comments or proposals submitted. However, all submissions received in response to this consultation will be carefully considered by ictQATAR when finalizing its policy recommendations.

Communication with ictQATAR concerning this consultation must be submitted in writing by no later than 3:00 p.m. (local time in the State of Qatar) on 20 March 2011. A covering page containing the information set out in Annex I should be included as the first page of the submission. Comments should be submitted by either of the following two methods:

1. (Preferred method) by e-mail to consult@ict.gov.qa. The subject reference in the e-mail should be "Consultation on Strategic Sector Review." It is not necessary to provide a hard copy in addition to the soft copy sent by e-mail.

2. By hand, courier, or post – one hard copy accompanied by a CD-ROM to:

   Mr. Ahmad Sultan
   Regulatory Policy and Planning Section Manager
   Telecommunications Regulatory Authority
   The Supreme Council of Information & Communication Technology (ictQATAR)
   19th floor, Al-Nasr Tower, Corniche Road
   P.O. Box 23264
   Doha – Qatar

6.2 Publication of Comments

In the interest of transparency and public accountability, ictQATAR intends to publish the submissions to this consultation on its website at www.ictqatar.qa. All submissions will be

processed and treated as nonconfidential unless confidential treatment of all or parts of the response has been requested and follows the criteria set out in Annex 1.

While ictQATAR will endeavor to respect the wishes of respondents, in all instances the decision to publish responses in full, in part, or not at all remains at the sole discretion of ictQATAR.

By submitting material to ictQATAR in this consultation process, respondents will be deemed to have waived all copyright that may apply to intellectual property contained therein.

For more clarification concerning the consultation process, please contact Mr. Ahmad Sultan, Regulatory Policy and Planning Section Manager, at asultan@ict.gov.qa.

7 Definitions

The words and expressions used in this consultation document shall have the meanings set out below. If the definition of a word is not covered below, please refer to the Telecommunications Executive By-Law of the State of Qatar, 2009, Chapter 1, Article 1, and the Telecommunications Law of Qatar, 2006, Chapter 1, Article 1, for a formal definition.

Active subscribers: SIM cards that have been used in the past 90 days. An individual may have multiple SIM cards.

Average revenue per user (ARPU): measures the average monthly revenue generated by each customer.

Carrier preselection (CPS): is a mechanism that allows end users to select in advance alternative communications providers to carry their calls without having to dial a prefix or install any special equipment at their premises. The end user subscribes to the services of one or more CPS operators (CPSOs) and chooses the type of calls (e.g., all national calls) to be carried by them. The end user may have a direct retail relationship with the CPSO or may purchase the service via a CPS reseller. The end user is billed for these calls by the CPSO or CPS reseller.

Carrier select (CS): the process whereby a telephone subscriber whose telephone line is maintained by one company, usually a former monopoly provider, can choose to have some of their calls automatically routed across a different telephone company's network by entering a special code or using special equipment.

Earnings before interest taxes depreciation and amortization (EBITDA): an approximate measure of a company's operating cash flow based on data from the company's income statement. The EBITDA margin is calculated as the ratio of earnings to total revenue before interest expenses, taxes, depreciation, and amortization have been deducted from the earnings figure.

Gulf Cooperation Council (GCC): the countries represented in the Gulf Cooperation Council are: Bahrain, Kuwait, Qatar, Oman, Saudi Arabia, and the UAE.

Gross domestic product (GDP): the market value of all final goods and services produced within the borders of a single country within a year.

Megabits per second (Mbps): a measure of the information-carrying capacity of a circuit, i.e., its data transfer rate, expressed in millions of bits per second.

Network readiness index (NRI): published every year by the Global Information Technology Report of the World Economic Forum, the NRI identifies the most relevant factors facilitating ICT readiness in 133 countries and ranks the countries accordingly, allowing comparison.

Organisation for Economic Co-operation and Development (OECD): the Organisation for Economic Co-operation and Development is an international economic organization founded in 1961 to stimulate economic progress and world trade. It has 33 members, all of them developed countries.

Postpaid mobile subscriber: refers to a mobile subscriber subject to contractual agreement between the subscriber and the service provider.

Prepaid mobile subscriber: refers to a mobile subscriber who is not subject to monthly fee or contract.

Qatar National Broadband Network (QNBN): the high-speed national broadband network that the Government of Qatar is planning to build.

Revenue per minute (RPM): measures the actual revenue per minute of a telecom company. It is obtained by dividing the company's total voice revenues over a given period by the total number of minutes consumed by customers over the period.

Rights-of-way (RoW): permission given to a service provider to deploy telecom infrastructure on land belonging to another party, to facilitate telecom infrastructure deployment.

Site sharing: process allowing mobile telecom operators to share their civil infrastructure with the objective of reducing operators' deployment costs and giving them access to prime transmission sites.

Total sector revenues: operators' revenues earned from offering fixed or mobile services in Qatar. National operators' revenues earned abroad are excluded from this calculation.

Value-added tax (VAT): a consumption tax levied at the end of each stage of production based on the value added to the product within each stage.

Worldwide Interoperability for Microwave Access (WiMAX): refers to a set of telecom technologies that provide broadband wireless access to the carrier network based upon the harmonized IEEE 802.16/ETSI HiperMAN standard.

Workforce: total number of people of working age employed or actively seeking

employment within a specific industry.

Very small aperture terminal (VSAT): VSATs provide interactive or receive-only telecommunications to end user premises, generally via geostationary satellites. VSAT-based systems are used extensively to provide last-mile connectivity in remote areas or areas where other technologies cannot provide services. VSAT services can be classified as one-way services, which are mostly direct-to-home (DTH) television services, and two-way services, which include normal voice, fax, and data connectivity, access to Internet services and the WWW, and the provision of connectivity to cellular networks so that mobile GSM services can remain active even in remote areas.

Annex 1: Covering Page for Submissions in Response

Covering Page for Comments in Response to ictQATAR's

Consultation on Strategic Sector Review

Responding party

Name:

Organization:

Address:

Telephone: E-mail: Date:

Consent

By submitting this response to ictQATAR, the respondent consents to its publication in full by ictQATAR on its official Web site or by other media, unless confidential treatment of all or parts of the response has been requested and follows the criteria set out below.

Confidentiality

In the event you would like your response to be treated confidentially, you are requested to also supply ictQATAR with a nonconfidential version. The provision of a written explanation justifying the need for confidentiality is also necessary.

Please note that in case of a failure to provide sufficient reasoning for a request of confidentiality or an additional, nonconfidential version of the response the request will be treated as incomplete and may result in full publication of the response.

While ictQATAR will endeavor to respect the wishes of respondents, in all instances the decision to publish responses in full, in part, or not at all remains at the sole discretion of ictQATAR.