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IRAN
TELECOMMUNICATIONS REPORT
INCLUDES BMI'S FORECASTS

IRAN TELECOMMUNICATIONS REPORT Q4 2011

INCLUDES 5-YEAR FORECASTS TO 2015

Part of BMI's Industry Survey & Forecasts Series

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Executive Summary

BMI's Q411 update on Iran's telecommunications market contains revised forecasts for the development of mobile telephony, internet usage and fixed-line connectivity through to 2015. Since our last update, some new data has become available for the end of 2010. Meanwhile, the country's second-largest mobile operator, **MTN Irancell**, published new operational data for the period ended March 2011. MTN reported almost 31.4mn mobile subscribers at the end of March 2011. This figure was up by 5.5% compared with the previous quarter and by 23.7% against the previous year.

Our new mobile subscriber forecast for Iran expects the mobile sector expanding by about 21.5% in 2011, with the mobile customer base predicted to grow to more than 82mn by the end of the year. If achieved, our prediction will mean Iran's mobile market penetration rate will cross the 100% threshold sometime in 2011. However, it should be remembered that the bulk of mobile subscriptions in Iran are made up of prepaid users. Many of these are understood to be inactive and this means actual penetration rates are almost certainly much lower than our forecast suggests.

In addition to our regular mobile subscriber forecast, we are introducing a new forecast for mobile ARPU levels in Iran. Our forecast is calculated in Iran's local currency, the Rial and is based on ARPU figures published by MTN Irancell, the only operator which publishes ARPU rates on any regular basis. Expressed in the local currency, MTN had an average blended ARPU of IRR83,311 (US$8) for 2010. This was up by 8.7% compared to the previous year. The growth of MTN's ARPU, in local currency terms, occurred in spite of the promotions which the operator introduced in a bid to capture market share from mobile market leader **MCI**. This suggests ARPU growth was driven by other factors, including an increase in the general level of service usage and a trend towards the use of more lucrative data services.

During the next five years, we forecast ARPU levels in Iran's mobile sector will come under increasing downward pressure as competition intensifies. In addition to new competition from Iran's third-largest mobile operator **Taliya**, which is continuing to deploy a national network infrastructure, we are optimistic that a new national mobile operator will enter the market. One possibility is that a new entrant will enter the market through the acquisition of regional operator **MTCE**. MTCE is 49%-owned by Malaysian operator **Axiata**, the latter of which announced in July 2010 it was possibly looking to sell its stake in MTCE. The company is licensed to operate a GSM 900MHz mobile service with a capacity of 35,000 customers in Esfahan. Its 15-year licence expires in May 2016.

A revised forecast for Iran's fixed-line telephony sector depicts average annual growth of 2.3% in the five years to 2015. Although the annual growth rates are expected to fall in the latter years of our forecast, we expect there will be more than 30mn fixed lines in service by the end of 2015, resulting in a penetration rate of about 38%.

Although there are further changes to our forecast for Iran's internet user market this quarter, our forecast for the number of broadband subscribers remains unchanged. We estimate Iran had more than 25.4mn internet users at the end of 2010; resulting in penetration of 34.4%. Despite strong internet usage growth in recent years, there are signs a major slowdown in growth is under way. This could suggest that the limit of the country's addressable market of potential internet users is already being reached.

Iran continues to sit at the bottom of **BMI**'s Business Environment Ratings for Middle East and North Africa (MENA). Iran's individual category and composite scores remain unchanged this quarter. Although Iran has a low score in all of the categories surveyed by **BMI**, in none of the categories does it have the lowest score in the MENA region.

SWOT Analysis

Iran Mobile SWOT	
Strengths	- MCI faces greater competition as MTN Irancell continues to expand its network reach; coverage is currently at 77% of the population. - The sector has brought in a number of major strategic investors including South Africa's MTN, Etisalat of the UAE and Axiata of Malaysia. - GPRS and MMS services are now offered by two leading network operators, MCI and MTN Irancell, with the latter noting roughly 20% of its data services account for total revenues. About 89% of its data services still derive from SMS.
Weaknesses	- Average customer spending levels are low, if the ARPU figures of MTN Irancell are anything to go by and could drop further still on account of government cuts to food and fuel subsidies. ARPUs remained flat at US$8 over 2010 and continued at that level in Q111. - Evidence suggests that GPRS user growth has been slow, with MTN Irancell at some 10.6mn users. - MMS and SMS services are subject to government censoring and filtering. - US embargo puts limits on potential network equipment partners for the operators.
Opportunities	- Iran's relatively low mobile penetration rate means that customer growth should remain strong over the next few years. The presence of large numbers of inactive prepaid users inflates the penetration rate and masks the potential for further customer growth. - Although in the early stages, the market for mobile value-added and data services is expected to see strong growth over the next few years; the youthful orientation of Iran's population should help to underpin future growth. - Continuing network expansion programmes of Iran's leading operators should have a positive impact on future growth.
Threats	- Government controls over mobile data and internet services could limit the growth of this potentially lucrative sector – as is currently being witnessed through the creation of a cyber police unit in early 2011. - The arrival of the third national operator could prompt a price war within the mobile sector and result in a downturn for ARPU. - Unstable political and security environment could hinder investment in the sector from equipment manufacturers and content providers.

Iran Wireline SWOT

Strengths
- Iran's fixed-line penetration rate is one of the highest in the Middle East region; in recent years, the number of fixed lines has continued to grow.
- Competition exists in the internet access market, with more than 1,200 companies providing internet services, according to reports.
- WiMAX services are available in Tehran, provided by Laser Telecom; additional WiMAX licensees are currently constructing their networks.
- The recent development of TCI's national IP backbone has helped to improve the quality of voice and data services.

Weaknesses
- The provision of fixed voice telephony services remains under the monopoly control of TCI.
- Despite a significant number of companies providing internet access services, the internet market is dominated by TCI.
- Fixed-line growth is slowing as mobile substitution starts to take effect.
- Residential internet customers are subject to government restrictions on the sort of websites they can access.

Opportunities
- An extensive fixed-line infrastructure provides a strong platform on which to deliver DSL-based broadband services.
- Demand for internet services is strong, if growth in the number of internet users is anything to go on.
- Broadband penetration is extremely low, particularly among residential customers; this designates broadband internet services as a market with major growth potential.
- Business demand for wireline services is expected to grow, especially for internet and data services.

Threats
- Fixed-line sector could decline at a more rapid rate than expected, with potentially negative consequences for ADSL growth.
- The continuation of government restrictions with regard to internet content could undermine the long-term development of broadband.
- Unstable political and security environment could hinder investment in the sector from equipment manufacturers and content providers.

Iran Political SWOT	
Strengths	▪ Since the overthrow of the Pahlavi family in 1979, there has been some reduction in the level of political corruption, while wealth distribution has improved marginally.
	▪ The Revolutionary Guard and Basij militia are fiercely loyal to the supreme leader, helping to maintain social stability.
Weaknesses	▪ The Islamic Republic has one of the poorest human rights records in the region, and authorities do not hesitate to quell dissidents. A number of journalists and anti-government protesters are being held in custody.
	▪ While decision-making ultimately rests with the supreme leader, the regime is heavily fragmented and consensus is hard to reach.
	▪ Widespread perceptions of electoral fraud during the course of June 2009's presidential elections have damaged the regime's legitimacy in the eyes of many Iranians.
Opportunities	▪ The Majlis (parliament) is more than just a rubber stamp – the move by 150 parliamentarians (out of 290) to hold the president accountable for his handling of the economy is a positive indication that checks exist.
Threats	▪ Ongoing nuclear tensions raise the prospect of further US and UN Security Council sanctions and the – albeit limited – possibility of a military strike by the US or Israel.
	▪ Ethnic tensions are on the rise.
	▪ High youth unemployment.
	▪ The rising influence of the Revolutionary Guards within the political and economic arena may present a challenge to the status quo over the long term.

Iran Economic SWOT	
Strengths	▪ Iran has the world's second largest proven oil reserves after Saudi Arabia, and the world's second largest proven gas reserves after Russia.
	▪ Oil and gas aside, Iran is rich in other resources and has a strong agricultural sector.
Weaknesses	▪ Local consumption of hydrocarbons is rising rapidly and this, coupled with ageing technology in the oil & gas sector, will have a negative impact on its oil- and gas-exporting capacity.
	▪ The commencement of the country's subsidy reform programme has lowered its growth prospects and accelerated inflation.
	▪ International sanctions discourage foreign oil companies from bringing much-needed technical knowledge and equipment to maintain oil output levels.
Opportunities	▪ The gas sector remains underdeveloped, and there is considerable room to maximise this source of revenue.
Threats	▪ A decline in global oil prices would have a marked impact on the economy. Although an Oil Stabilisation Fund exists to protect the economy at times of weaker oil prices, it has increasingly been used to fund government over-spending and could be close to empty.
	▪ A further deterioration in Iran's relations with the international community over its nuclear programme could result in the imposition of more extensive economic measures by the UN Security Council or the US.
	▪ There is a serious risk of capital flight owing to fears of conflict or sanctions.

Iran Business Environment SWOT

Strengths
- The Foreign Investment Promotion and Protection Act gives some protection to foreign investors and now allows relatively good terms for the repatriation of profits.
- Although stifled in the years since the Islamic Revolution, Iranians have traditionally been renowned for their entrepreneurial skills – a factor that is potentially a strong pull for foreign investors.

Weaknesses
- Progress on the privatisation front remains slow, despite some recent encouraging signs.
- Foreign firms are currently unable to own Iran's hydrocarbon resources. The resultant 'buy back' deals offer less advantageous terms than those elsewhere, limiting hopes of new investment.

Opportunities
- As part of the fourth five-year development plan 2005-2009, the government ended tax and customs concessions afforded to the country's quasi-statal bonyads or foundations.
- The government has inaugurated the first phase of an oil swap project with Russia, Kazakhstan and Turkmenistan. The project will compete with the rival US-backed pipeline that will run to the Mediterranean from Baku in Azerbaijan through Georgia to Ceyhan in Turkey.

Threats
- UN and EU sanctions on the Islamic Republic pose a significant threat to the participation of foreign firms in the oil & gas sector.
- Central bank supervision of charitable funds will be stepped up sharply, after it emerged that a number of these funds had collapsed due to indiscriminate lending practices.

Business Environment Ratings

Middle East and Africa

BMI's Q311 Business Environment Ratings (BER) table for the Middle East And North Africa (MENA) reflected the political uprising in the region during the first few months of 2011. Anti-government demonstrations in some countries, or likelihood of it in others, brought the telecoms industry under the spotlight because of the role services such as SMS, MMS and internet-based file sharing and social networking played in mobilising protesters. In our Q411 update, we assess the impact of new developments, or the lack of it, on the telecoms market and the regulatory, political and socioeconomic environments on our BER table.

BMI notes that the Industry Risks, Country Risks and Industry Rewards categories of our analysis were affected most by the crisis in the region. The heavy-handed response of some governments to the influence of telecoms services on protests exposed significant industry risks in those countries, while considerable human displacement resulted in downgrades to Industry Rewards scores. Meanwhile, hurried transitions to new administrations and a slowdown to economic activities heightened the political risk profile of some countries, resulting in the downward revision of their Country Risks scores.

Although some countries in the region still experiencing violent anti-government protests, such as Syria and Yemen, are not yet included in **BMI**'s BER for MENA, we caution that an escalation of violence in those countries could have wider political and socioeconomic implications for the entire region.

Israel remains at the top of our table this quarter with an overall score of 70.6, up from 70.4 in the previous quarter because of a slight upgrade to Israel's Country Risks score. The acceleration in Israel's economic recovery thus far in 2011 has prompted us to revise up our 2011 and 2012 real GDP growth forecasts to 4.8% and 4.5% respectively, from 3.8% and 3.3% previously. The output gap has nearly closed, with unemployment declining to a seasonally adjusted 6.0% in Q111 (its lowest level since Q308) and manufacturing production at its highest level since 2004, while growth in exports and private consumption has been robust, as we expected. Israel continues to score significantly higher than the regional average in the four categories, especially the Industry Risks category, which reflects fair market competition and lack of significant government interest in any of the service providers.

Saudi Arabia maintains second position despite a slight downgrade to its score in the Industry Rewards category to 55 from 57.5 in the previous quarter. Mobile ARPUs in Saudi Arabia are trending downwards because of regulatory pressure on tariffs and increasing competition in the market with the entry of **FRiENDi Mobile** through a branding deal with **Zain KSA**. Subscriber growth remains robust despite a penetration rate of about 200%. Meanwhile, fixed-line incumbent **STC** and alternative operator **Etihad Etisalat** have ramped up investments in the roll-out of fibre-optic networks for high-speed broadband.

We expect this to drive revenue growth from higher value services in the future, particularly from corporate clients because of the increasing dependence of enterprise solutions on internet connectivity.

There is no change to Qatar and Kuwait's scores this quarter and both countries maintain their places in the third and fourth positions on our table this quarter. Qatar and Kuwait record similar scores in three of our four categories. The major difference between both countries is in the Industry Risks category where Kuwait continues to register a relatively low score because of the lack of an independent telecoms regulator in that country. The Ministry of Communications (MoC), which is under the direct control of the Kuwaiti government, acts at the telecoms regulator. It is also the sole provider of fixed-line services and controls the international gateway. The lack of independent regulation and the state monopoly of the international gateway are widely blamed for high international calling tariffs in Kuwait. **BMI** notes that reports of the government's plan to set up a telecoms regulatory authority date back to the mid-2000s. In August 2007 a senior official at MoC told the Arab Times newspaper that the government was in talks about establishing a regulator to design a regulatory framework, license all telecoms services and resolve disputes between operators as well as between operators and the authority. Other reports in the past have suggested the imminent establishment of a regulator. However, all previous attempts failed and there was little explanation for the reason behind the government's hesitation. In July 2011, Waleed Saleh al-Qallaf, the CEO of Kuwaiti internet service provider (ISP) **QualityNet**, believes a telecoms regulator could be established in the country by mid-2012. **BMI** is hopeful the government will follow through with its latest attempt at establishing an independent regulator, although it is difficult to ascertain if there is political will by the government to stick to this timeline.

Oman remains in sixth place with no change to its score this quarter while the UAE jumps two places into seventh. Although the UAE's Industry Rewards score was down by 2.8 points this quarter because of slower subscriber growth and lower ARPUs, we upgraded the country's Industry Risks score to 30 this quarter to reflect the telecoms regulator's efforts at encouraging competition in the market such as removing the restrictions to fixed service by operators in areas outside their original concessions. However, we are concerned that the market remains a duopoly and that the government continues to maintain significant stakes in the two operators - **Etisalat** and **du**.

Iraq slips one place to eighth position on our table this quarter, despite a slight increase in its overall score. We upgraded Iraq's Country Risks score this quarter by 1.7 points to reflect Iraq's significant and untapped growth potential. Our core scenario expects continued investment in the infrastructure and oil and gas sectors, which will underpin the country's economic activity, as well as high levels of fiscal expenditure. As a result, we maintain our 2011 and 2012 forecasts of 5.5% and 5.2% respectively. We note, however, that political factors will have a profound effect on the country's growth trajectory. The coalition government formed in December 2010 appears to be fragmenting, as internal disagreements between coalition partners and external pressure from the public over a lack of services threaten to

weaken its legitimacy. We caution that a break-up of the current government would likely presage a sharp slowdown in economic activity.

There is no change to Jordan's overall score this quarter, but it falls to ninth position from eighth in the previous quarter because of the UAE's impressive rise this quarter. Jordan scores above average only in the Industry Risks category, mainly because intervention in telecoms services during the political unrests earlier in the year was less prominent compared with some other countries in the region.

Morocco and Egypt remain in 10th and 11th places as in the previous quarter despite changes to both countries' Industry Rewards and Country Risks scores as well as slight improvement to Egypt's Industry Risks score. Morocco's Industry Rewards score dropped by 2.5 points this quarter as growing competition in the mobile segment increases downward pressure on ARPU rates. The lower Industry Rewards score was, however, offset by a slight improvement in the Country Risks category. Despite social unrest gaining pace in April 2011, we stand by our view that Morocco is among the most politically stable countries in MENA. Although King Mohammed VI of Morocco continues to be highly criticised by pro-reform protesters and human rights groups, we believe the referendum on July 1 for a new constitution marks a positive step in terms of Rabat's willingness to pursue democratic reforms, adding to the already less conservative and more open political environment pledged by the king since 1999. While King Mohammed will retain significant powers, including some executive and judicial rights, we believe that the other concessions clearly indicate willingness to reform on his part. However, we highlight risk scenarios in which larger-scale protests occur and develop into violent clashes. Social unrest and the recent terrorist attack in Marrakech have led us to revise down our growth forecasts for 2011 to 2.2%, from 4.3% previously. An increase in government spending will prevent a more pronounced downturn.

For its part, Egypt saw improvements to its Industry Rewards and Industry Risks scores this quarter, but a significant downgrade to its Country Risks score because of increasing protests against the perceived slow political reforms for by the interim government. The Industry Rewards score was boosted this quarter by strong subscriber growth and slight increase in ARPU, possibly because of increased usage during the protests that ousted the former president, Hosni Mubarak. We also upgraded the Industry Risks score to reflect moves by the government to atone for and prevent a reoccurrence of the interference in telecoms services in the first few weeks of the protests. Egypt's Country Risks score, however, fell by 5 points this quarter as conflicting reports in June have thrown the timetable for parliamentary and presidential elections into doubt. After Vice President Yehia al-Gamal told a TV channel that the transitional government had agreed to delay the vote until December, the AFP reported that a military source had said they would go ahead as scheduled in September. The conduct of these upcoming elections will prove to be a key milestone for Egypt's democratic transition, and could go some way towards bolstering investors' confidence in long-term political stability.

Tunisia climbs one place into 12th position, helped by a downgrade to Libya's score this quarter. There is no change to Tunisia's score this quarter although political instability in that country remains a major concern. Tunisia scores below average in all four categories in **BMI**'s business environment analysis. Libya is in 13th place this quarter because of a downgrade to its Industry Rewards score. **BMI** notes that it is extremely difficult to access credible data on the telecoms market and the economy in Libya because of the ongoing civil war, which has effectively split the country into two with two parallel governments. We, therefore, note that Libya's score will therefore be revised when more reliable data and market information become available.

There is no change at the bottom of the table this quarter with Iran and Algeria maintaining 14th and 15th positions respectively. Although both countries have attractive demographics and are rich in natural resources, they continue to be held back by weak Industry Risks scores because of strong government influence on the telecoms sector, which impedes competition and serves as a disincentive to international service providers. Algeria's Industry Rewards score is the lowest in the region this quarter because of the lack of 3G services and weak competition in the market. **BMI** believes an improvement in both countries' political risk outlook and the reduction of state influence on the telecoms sector could result in a significant improvement of their overall scores.

Middle East And North Africa Q411 Telecoms Business Environment Ratings							
Country	Industry Rewards	Country Rewards	Industry Risks	Country Risks	Telecoms Rating	Rank	Previous Rank
Israel	60.5	86.7	80.0	65.4	70.6	1	1
Saudi Arabia	55.0	66.0	60.0	64.3	59.8	2	2
Qatar	46.8	75.0	60.0	67.7	58.8	2	3
Kuwait	45.0	78.0	30.0	69.1	54.4	4	4
Bahrain	41.3	78.0	40.0	67.4	54.0	5	5
Oman	40.0	66.0	50.0	71.6	52.6	6	6
UAE	44.0	69.0	30.0	63.9	51.0	7	9
Iraq	50.0	60.0	50.0	36.9	50.5	8	7
Jordan	45.0	60.0	50.0	48.1	49.9	9	8
Morocco	37.5	53.3	65.0	49.6	47.3	10	10
Egypt	52.5	43.7	40.0	42.0	46.9	11	11
Tunisia	40.0	56.7	40.0	42.0	44.4	12	13
Libya	40.0	66.7	10.0	50.4	43.6	13	12
Iran	**45.0**	**49.7**	**20.0**	**46.4**	**42.6**	**14**	**14**
Algeria	35.0	53.0	30.0	57.4	42.0	15	15
Average	45.2	64.1	43.7	56.1	51.2		

Source: BMI

Iran

Iran continues to be at the bottom of **BMI**'s Business Environment Ratings for Middle East and North Africa (MENA). Iran's individual category and composite scores remain unchanged this quarter.

Although Iran has a low score in all of the categories surveyed by **BMI**, in none of the categories does it have the lowest score in the MENA region. Several countries have a lower score in the Industry Rewards category, including Bahrain, Oman, Libya, Tunisia and Morocco. On the one hand, Iran's telecoms sector is characterised by a number of weaknesses which weigh heavily on its Industry Rewards score. These include a mobile market, which lacks competition and is heavily reliant on prepaid users, and an internet sector with low subscriber penetration rates, high bandwidth costs and a high level of state control. Since the 2009 Iranian presidential elections, social networking tools such as **Twitter** were being used to organise marches and release information about Iranian demonstrators' movements. The impact of this has meant that the Iranian authorities continue to remain uneasy about internet access.

On the other hand, Iran's telecoms sector offers considerable future growth potential, with a large addressable market and low penetration rates (although the mobile penetration rate appears high, it is low by regional standards and is believed to be inflated by the presence of a large number of inactive prepaid users). Meanwhile, despite a slowdown in growth in the number of internet users, apparently there is potential for a vibrant internet sector in Iran. The fixed-line sector also has one of the highest penetration rates in the MENA region and the number of fixed telephone lines continues to grow. This development bodes well for the future deployment of wireline broadband services.

In the Country Rewards category, Iran has the second lowest score in the region after Egypt. In its favour is a large and relatively young population, which offers telecoms service providers a sizeable potential market. On the other hand, although Iran's economy is growing, the growth rates are not outstanding and the economy remains dependent on sectors such as oil. Meanwhile, GDP per capita rates are also low, with the population's comparatively low spending power tending to favour cheap tariffs. In future, spending on telecoms services is expected to be hit by an ongoing reduction in subsidies cuts and a steady rise in consumer prices. By regional standards, a relatively large number of Iranians live in smaller towns and cities; this tends to slow the speed at which new technologies and services can be deployed and marketed.

Iran has one of the lowest Industry Risks score in the MENA region, with only Libya receiving a lower score in this category. Although Iran has partially liberalised its telecoms sector, the fixed-line market remains a monopoly under the controlling influence of the Ministry of Communications and Information Technology (MICT), formerly the Ministry of Post, Telegraph and Telephones. Meanwhile, despite there being a large number of privately owned ISPs operating within the country, the internet sector is characterised by high levels of government control. In terms of regulation, Iran's telecoms market is entirely government owned and is regulated by the MICT. The MICT is responsible for all aspects of telecoms sector regulation and for the adjudication of disputes that arise among service providers. Despite long-term plans to establish an independent regulatory body, there has been little progress achieving this.

Iran's relatively low score in the Country Risks category is overtaken only by Egypt and Tunisia. **BMI** expects Iran's economy to experience marginal growth rates in future, boosted primarily by high oil prices. However, owing to our expectation that oil export volumes and prices will decline, we believe Tehran will need to work quickly in order to maintain growth momentum. We pencilled in real GDP growth rates of 1.2% and 2.4% in FY2011/12 and FY2012/13 respectively.

Meanwhile, we believe Iran is undergoing a period of political, economic and social tension, and do not believe the present situation will be sustainable. The long-term power struggle between President Mahmoud Ahmadinejad and Supreme Leader Ayatollah Ali Khamenei intensified in recent months and could undermine the stability of the regime. Another political battle is being waged between Ahmadinejad and parliament. These power struggles highlight the competing ideologies of religion in Iran, with the

supreme leader and clerical establishment supporting the existing theocratic system while others are promoting the emergence of a more nationalistic polity. Public support for clerical rule in Iran reportedly declined to low levels, and should nationalism grow in prominence, the legitimacy of the Islamic Republic would be weakened. The Iranian Revolutionary Guard Corps (IRGC), charged with protecting the 1979 revolution, still appears to support the clerical regime and we believe the IRGC's support for the supreme leader will make regime change much more difficult, as the group possesses a large degree of military, economic and political power.

Industry Forecast Scenario

Mobile

Table: Telecoms Sector – Mobile – Historical Data & Forecasts								
	2008	**2009**	**2010e**	**2011f**	**2012f**	**2013f**	**2014f**	**2015f**
No. of Cellular Mobile Phone Subscribers ('000)	43,000	52,555	67,500	82,013	95,315	106,997	115,595	121,375
No. of Mobile Phone Subscribers/ 100 Inhabitants	59.8	72.1	91.4	109.6	125.8	139.5	148.9	154.5
No of Mobile Phone Subscribers/100 Fixed Line Subscribers	173.4	203.7	251.4	295.8	334.1	368.0	391.2	404.3

e/f = BMI estimate/forecast. Source: BMI

We have made further revisions to our forecasts for Iran's mobile market. To a large extent, our new forecast figures reflect the introduction of new historical data on the number of mobile customers. However, since our last update, new data has also been published by Iran's second-largest mobile operator, **MTN Irancell**, for the period ending March 2011. MTN reported a 5.5% increase in mobile customers for Q111 and this has given us some indication of emergent growth trends for the year as a whole.

Industry Trends – Mobile Trends ('000)
2008-2015
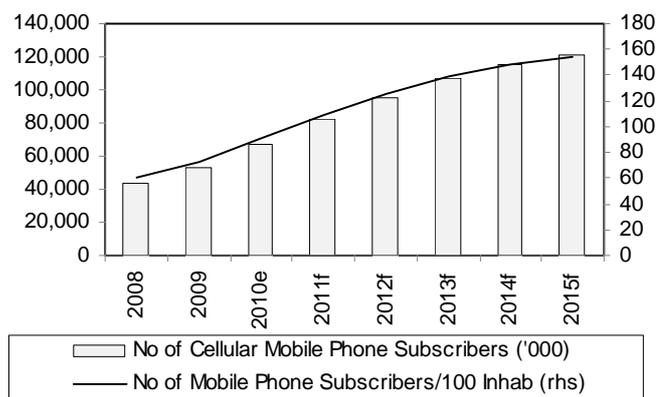
e/f = BMI estimate/forecast. Source: BMI

We continue to estimate Iran had a total of 67.5mn subscribers at the end of 2010. However, slight revisions to our estimate for the size of the sector at the end of 2009 mean that full-year growth in 2010 came in at 28.4%. This was notably up from the 22.2% growth estimated for the previous year. By the end of 2010 Iran's mobile market penetration rate had reached 91.4%; this was up from 72.1% one year earlier.

In 2011, we forecast Iran's mobile sector will expand by about 21.5%, with the total customer base expected to grow to more than 82mn. If achieved, our prediction will mean that Iran's mobile market penetration rate will cross the 100% threshold sometime in 2011.

It should be remembered however, that the bulk of mobile subscriptions in Iran are made up of prepaid users. In recent months, strong prepaid growth resulted from operator efforts to introduce special promotions and campaigns. The trend towards strong prepaid growth is expected to continue, particularly as the operators expand their networks into rural areas, where service coverage remains limited. However, while prepaid is leading mobile growth, it has also given rise to a number of inactive subscribers so that penetration rates may be significantly lower than forecast.

Over the next five years, we expect average annual growth of 12.6% for Iran's mobile sector. By the end of 2015 we expect a total market of 121.4mn mobile customers. This would Iran a mobile market penetration rate of 154.5%.

We have yet to devise a 3G subscriber forecast for Iran. A considerable lack of clarity continues to overshadow the regulatory handling of the 3G market in Iran. At present, only one operator has been awarded a licence to offer 3G services, while a second is not due for a period of three years. **BMI** believes the absence of a clear strategy for introducing 3G services could dent demand for mobile value-added services, which the government is keen to encourage the growth of as a tool to help economic growth. For now, it appears that Iran's mobile operators will have to contend with 2.5G (EDGE) technology to offer data services. Mobile ARPUs in Iran remain among the lowest in the region at US$8.

ARPU

Table: Telecoms Sector – ARPU – Historical Data & Forecasts							
	2008	**2009**	**2010**	**2011f**	**2012f**	**2013f**	**2014f**	**2015f**
MTN ARPU (IRR)	89,809	76,632	83,311	75,425	70,091	64,936	61,308	58,388

e/f = estimate/forecast. Source: BMI, Operators

During this quarter we expect the introduction of an ARPU forecast for the Iranian mobile market. Our forecast is calculated in Iran's local currency the Rial and is based on ARPU figures published by **MTN Irancell**, the only operator which publishes ARPU rates on a regular basis.

Industry Trends – ARPU
2008-2015

e/f = estimate/forecast. Source: BMI, Operators

Expressed in the local currency, MTN had an average blended ARPU of IRR83,311 for 2010. This was up by 8.7% y-o-y from IRR76,632 in the previous year. The growth in ARPU which MTN experienced in 2010 is masked by the US dollar-based figures which MTN quotes in financial reports. According to MTN, its ARPU remained relatively steady during 2009 and 2010 at US$8. The growth of ARPU, in local currency terms, occurred despite the promotions which MTN has been introducing in a bid to capture market share from mobile market leader **MCI**. This suggests the ARPU growth was driven by other factors, including the increase in the level of service usage and a trend towards the use of more lucrative data services. In 2010 MTN reported that data revenues accounted for 20% of total revenues. Another explanation for ARPU growth in 2010 is that MTN achieved success in attracting higher-value postpaid customers to its network. MTN does not report a breakdown of its customer base into prepaid and postpaid components, making it difficult to know the extent to which this has contributed to the ARPU growth trend.

During the next five years, we expect ARPU levels in Iran's mobile sector will come under increasing downward pressure as competition intensifies. In addition to new competition from Taliya, which is continuing to deploy a national network infrastructure, we are optimistic there another mobile operator will enter Iran. One possibility is that a new operator will enter the market through the acquisition of regional operator **MTCE**. Nevertheless, until a clearer picture emerges of nature of any emergent competition, we expect only a gradual decline in ARPU levels for MTN. In 2011 we forecast that MTN's
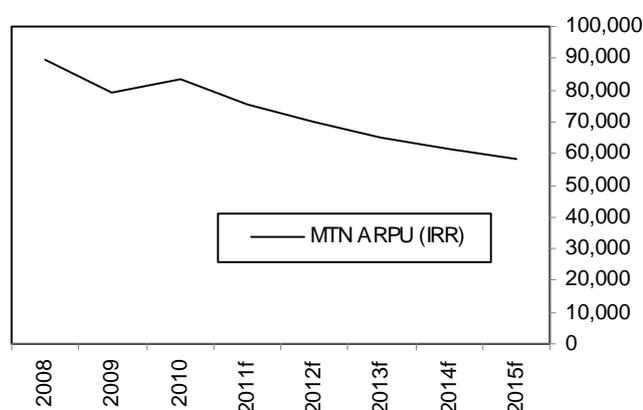
average blended ARPU will fall by 9.5% to IRR75,425. Then in the five years to 2015 we expect an average annual decline of 6.8% for MTN's blended ARPU. By 2015 we forecast the operator's average monthly ARPU should drop to about IRR58,388.

One major upside risk to this forecast is based on the impact which any significant discounting of inactive prepaid customers would have on MTN's ARPU. Meanwhile, although we are sceptical it will become a significant factor within our forecast period, any move to introduce 3G mobile services would be expected to have a positive impact on the Iranian operators' ARPU levels.

Fixed Line

Table: Telecoms Sector – Fixed-Line – Historical Data & Forecasts								
	2008	**2009e**	**2010f**	**2011f**	**2012f**	**2013f**	**2014f**	**2015f**
No. of Main Telephone Lines in Service ('000)	24,800	25,804	26,849	27,725	28,526	29,071	29,546	30,019
No. of Main Telephone Lines/100 Inhabitants	34.5	35.4	36.3	37.0	37.6	37.9	38.1	38.2

e/f = BMI estimate/forecast. Source: BMI

We revised our fixed-line forecast for Iran, incorporating new data from the ITU for end-2010. At YE10, there were a total of 26.849mn fixed telephone lines in service. This represented a y-o-y increase of 4%, a similar rate of growth to that of 2009. By the end of 2010 Iran's fixed-line penetration rate reached 36.3%, up from 35.4% one year earlier.

Industry Trends – Fixed-Line Sector
2008-2015

e/f = BMI estimate/forecast. Source: BMI

Considering Iran's relatively high mobile penetration rate, the continued growth of the country's fixed-line sector is something of an anomaly. However, at the moment, fixed-line demand appears to continue and incumbent operator **TCI** remains committed to its plan to deploy fixed-line infrastructure to rural areas. Iran's incumbent telco is also investing in the deployment of a high capacity fibre network from which broadband services may also be provided. It is hoped that such services as e-education, e-governance and e-health may help to benefit rural communities.

A revised five-year forecast depicts average annual growth of 2.3% for Iran's fixed-line telephony sector. Growth of about 3.3% is predicted for 2011, although the annual growth rates are expected to fall in the latter years of our forecast. By the end of 2015, we expect more than 30mn fixed lines in service, resulting in a penetration rate of 38.2%. While we see the continued growth of fixed line as a result of infrastructure deployments in rural areas, in the longer-term, this situation could change and, in the event of more companies being authorised to provide VoIP services, this could result in a more significant slowdown in fixed-line growth than that envisaged here. In the medium-term, the widespread reliance on dial-up internet services is expected to continue benefitting Iran's fixed-line market. The use of dial-up internet services necessitates the use of fixed telephone lines to access the internet.

Internet

Table: Telecoms Sector – Internet – Historical Data & Forecasts							
	2008	2009	2010e	2011f	2012f	2013f	2014f	2015f
No. of Internet Users ('000)	21,000	23,500	25,434	27,342	28,993	30,529	32,009	33,129
No. if Internet Users /100 Inhabitants	29.2	32.2	34.4	36.5	38.3	39.8	41.2	42.2
No. of Broadband Internet Subscribers ('000)	990	1,144	1,318	1,503	1,679	1,869	2,056	2,220
No. of Broadband Internet Subscribers/100 Inhabitants	1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8

e/f = BMI estimate/forecast. Source: BMI

During this quarter there are further changes to our forecast for Iran's internet user market. However, our forecast for the number of broadband subscribers remains unchanged. We estimate Iran had more than 25.4mn internet users at the end of 2010. This was up from 23.5mn users at the end of 2009, the last year for which we have official figures. Our estimate for 2010 means Iran had an internet user penetration rate of 34.4% at the end of the year. This was up from 32.2% one year earlier.

Industry Trends – Internet Sector
2008-2015
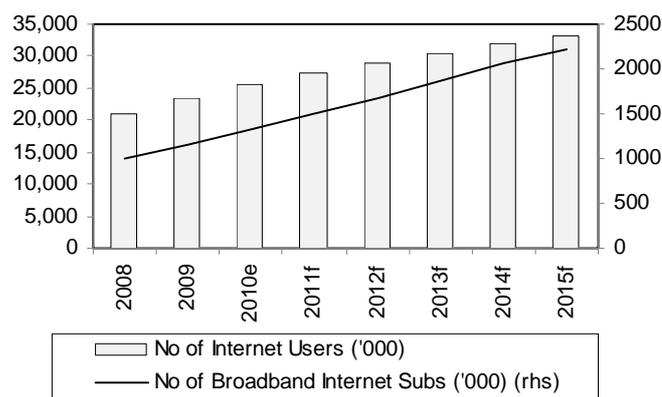
e/f = BMI estimate/forecast. Source: BMI

In 2010 Iran's internet user base grew by an estimated 8.2%. This growth rate was notably down from 11.9% in 2009, suggesting a definite slowdown in growth is under way. In the five years to 2015, we forecast an annual average growth rate of 5.4%. By the end of 2015 we believe Iran will have more than 33mn users, equivalent to a penetration rate of 42.2%.

Although Iran has a relatively high internet user penetration rate, this reflects the way in which the majority of Iranians access the internet, for the most part through educational facilities and internet cafés. By contrast, Iran is believed a very low internet subscriber penetration rate. We estimate that Iran had a total of 1.3mn broadband subscribers at the end of 2010, equivalent to a penetration rate of 1.8%. If dial-up subscribers are taken into account, the internet subscriber penetration rate would no doubt be higher. The main reason for Iran's low broadband penetration rates is the high cost of internet access and the

underlying bandwidth. However, Iran also has a highly regulated internet sector and it is possible that various forms of government control serve to further discourage individuals from acquiring their own internet subscription.

By the end of 2015 we believe Iran's broadband penetration rate will have risen to about 2.8%. However, this could be higher still in the event of a breakthrough with WiMAX service deployment. WiMAX services have yet to take off, but have been held back due to bandwidth and content limitations. Mobile broadband could also go a long way towards revolutionising Iran's broadband sector. However, such services depend on the development of 3G networks and have yet to be launched.

Market Data Analysis

Mobile

Since our last update, Iran's second-largest mobile operator, MTN Irancell, published operational data for the Q111. MTN reported 31.391mn mobile subscribers by the end of Q111, up by 5.5% from 29.743mn mobile subscribers at the end of 2010 and by 23.7% from 25.39mn one year earlier. Similar data from Iran's other cellcos is unavailable, making it difficult to precisely gauge MTN's market share at the end Q111. According to our calculations, MTN

Iran Mobile Market Growth
2008-2010

Source: BMI

accounted for more than 44% of Iran's mobile customer base at the end of 2010, when there a total of 67.5mn mobile customers. According to MTN's own market share figures, the total number of Iranian mobile subscribers at the end of 2010 was just 67mn. However, this indicates that the market experienced flat growth in the three months from September to December 2010. **BMI** does not believe this was the case, especially considering recent growth trends.

One possible reason for the discrepancy between MTN's figures and **BMI**'s calculations relates to a differing assessment of the number of operators within the Iranian market. MTN Irancell counts only three operators in the Iranian mobile sector (with the third operator expected to launch services in Q211 according to the operator), while we identified five operational operators, including two smaller regional operators. However, it is important to remember that the two regional operators account for a small number of mobile customers. A more plausible explanation for the discrepancy between MTN and **BMI**'s market share figures relates to the likelihood that the total Iranian customer base includes a large number of inactive users. The inclusion of registered (but inactive) mobile users in operator reported totals often leads to distortions and differing assessments of the actual number of mobile customers.

It should be noted that **BMI**'s figures differ from those reported by the World Bank. The reason for this difference most likely relates to inclusion of inactive prepaid customers in assessing the market size. World Bank figures suggest there were 52.555mn mobile subscribers at the end of 2009, up by 22.2% from 43mn in the previous year, reflecting a 22.2% y-o-y increase. According to the World Bank's figures, the number of mobile subscribers rose by 44.4% in 2008, while there was a 93.5% y-o-y increase in 2007, when the customer base rose to 29.77mn. The slowdown in annual growth is the result of greater maturity in the sector.
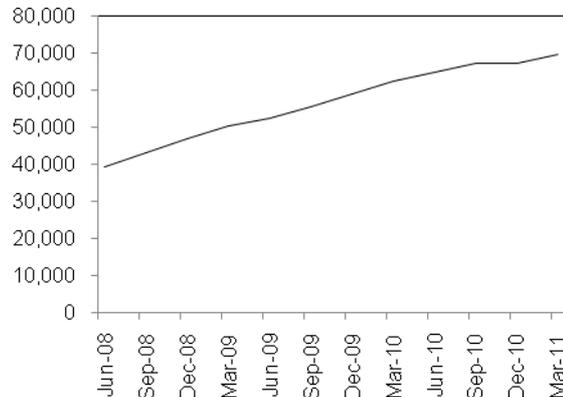
Despite a lack of data, it is understood that state-owned operator, **MCI**, remains Iran's largest mobile network operator. MTN has not published any new data since our last update. However, **BMI** estimates that at the end of 2010 the operator had less than 37mn subscribers, providing it with a market share of 54.7%. During Q410, we estimate the number of subscribers rose by 5.7% from 34.923mn in September 2010.

Iran's second-largest mobile operator continues to be MTN Irancell. In 2010, MTN reported a 28% y-o-y increase in subscribers, with the operator's total customer base growing from 23.260mn to 29.743mn. This gave it a 44.1% share of the mobile market. The strong growth was attributed to a strategy based on segmented tariffs and enhanced seasonal promotions. During 2010 the operator also undertook an aggressive brand promotion and continued to invest in developing its network. By the end of 2010 about 77% of the population were covered by MTN's network (up by 4% y-o-y) with 20% geographic coverage (up by 9% y-o-y). Despite the improved network coverage and quality, the operator acknowledged Esfahan remained challenging region in which to do business. By contrast, the operator indicated it had a good level of network coverage in the capital Tehran. During 2010 MTN deployed 1,284 BTS, of which 556,000 were deployed in H210.

Although MTN continues to report subscriber growth rates that are in double digits, 2010 growth was noticeably lower than in the previous year, when the number of subscribers rose by 45%. In H209, growth was driven by various attractive acquisition promotions, including a reduction in the price of SIM starter packs, as well as loyalty programmes and bonus discount products. At the end of 2008 MTN reported a subscriber base of 16.039mn, representing a y-o-y increase of 167%.

Based on the above performance indicators, it does not look as though MTN reached the maximum number of subscribers permitted under its operating licence, as earlier press reports would have us believe. Considering that the operator surpassed 15.8mn subscribers, it should immediately stop plans to buy new mobile subscriptions, according to Mohammad Karampour, deputy minister and regulatory president. Further, the Iranian regulatory authority stated that no company should occupy over 40% market share in order to ensure fair competition, however, **MCI** and MTN Irancell have broken this rule.

Table: Iran – Mobile Market, 2010

Operator	No. of subscribers ('000)	Market share (%)
MCI	36,937e	54.7
Irancell	29,743	44.1
Taliya	800e	1.2
MTCE	14e	0
TKC	6e	0
Total	67,500e	100.0

e = estimate. Source: Operators; BMI

BMI recently revised its assessment of the number of mobile subscribers served by third-ranked operator **Taliya**. The operator provides prepaid services only and we believe this includes a number of inactive subscribers. This led us to significantly revise downwards our estimate for the number of Taliya mobile subscribers. We believe Taliya had about 800,000 mobile customers, giving it a market share of 1.2% at the end of 2010. We had in previous reports noted that Taliya's subscriber base was likely to contain a high proportion of inactive customers, while MTN Irancell had noted in March 2008 that Taliya was likely to have as few as 450,000 active subscribers.

The rest of Iran's mobile market is made up of small regional operators, which account for only a very small share of the market. The two regional operators are respectively **Mobile Telecommunications Company of Esfahan** (MTCE) and **Telecommunication Kish** (TKC).

We estimate MTCE, the fourth-ranked operator, had fewer than 14,000 subscribers at the end of 2010. Our new estimate is based on figures reported by **Axiata**, a Malaysian company. MTCE is 49% owned by Axiata, the latter of which announced in July 2010 it was possibly looking to sell its stake in MTCE. However, no purchaser has been named at the time of writing. According to a Dow Jones articles, Axiata has valued its Iranian operations as 'insignificant'. The operator is keen to dispose of its assets but has said it will only do so if the 'price is right,' although it has not divulged how much it is looking to sell its stake in MTCE for. MTCE commenced operations in mid-2002 as the first provider of mobile prepaid SIM cards in Iran. It is licensed to operate a GSM 900MHz mobile service, with a capacity of 35,000 customers in Esfahan. Its 15-year licence expires in May 2016.

The planned sale of MTCE could present an opportunity for one of Iran's smaller operators to expand their market shares and network reach. In April 2010 **Tamin Telecom** had been formally awarded a licence to provide 2G and 3G mobile telecommunications services in Iran. It is therefore possible Tamin could be interested in purchasing MTCE. Tamin Telecom had earlier stated its aim to begin offering services before the end of 2010. It is understood that the new licensee plans to deploy networks in eight major cities within the nine months, although at the time of writing no further information had been released. Reports from the official news agency, IRNA, quote the company as saying that it is looking to hire a consultancy with experience of setting up and managing mobile networks.

Another possible scenario is for an entirely new company to enter the Iranian market through the acquisition of MTCE. The UAE's **Etisalat** aims to expand in the region through direct and indirect investments. The operator had previously in 2009 secured the right to be the exclusive 3G operator in Iran for two years but had its licence withheld. Etisalat indicated it may no longer be interested in entering Iran's telecoms market. Further, authorities in the UAE were expected to announce new restrictions on the thousands of Iranian businesses based in Dubai, a major hub for the re-export of goods to Iran. This could mean that a bid from a UAE company, while permitted by Axiata, may not be acceptable to the Iranian authorities. As for other potential foreign investors, it should be remembered that Iran's business environment is made more unpredictable – and potentially volatile – by US sanctions in place and the possible introduction of new European sanctions.

Still **BMI** welcomes the possibility that a third player could enter the Iranian mobile market, either in the form of Tamin or by means of another operator. Iran's mobile sector is effectively a duopoly which is dominated by two major operators. Although we hope that a new investor for MTCE may be found quickly. It is hoped this will increase price competition and service innovation.

ARPU

MTN Irancell is the only Iranian mobile operator for which ARPU figures are available. Since our last update, new data has been published for the three months to March 31 2011. Expressed in dollar terms, MTN's ARPU remained flat over Q410 at US$8. The operator's blended ARPU fell from US$10 in Q407 to US$9 in Q108 and remained at that level until Q408. However, in Q109, MTN reported a further drop in ARPU, which fell to US$8. It remained at that

MTN Irancell ARPU
2008-2010 (US$)
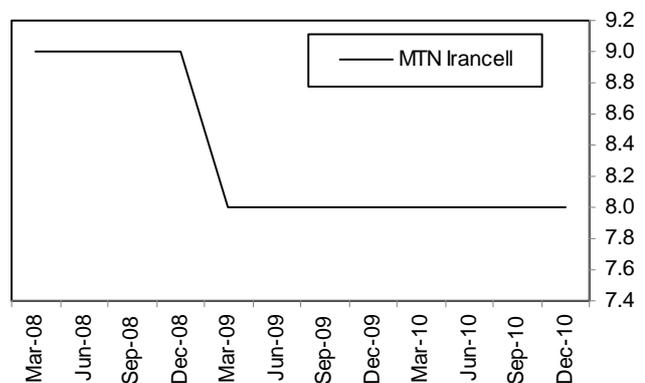
Source: MTN

level since then.

It is possible to explain the decline and stagnation of MTN's ARPU with reference to the introduction of special promotions as part of a competitive strategy. However, when expressed in the country's local currency, MTN had an average blended ARPU of IRR83,311 for 2010. This was up by 8.7% y-o-y from IRR73,632 in the previous year. The growth in MTN's ARPU in 2010 is therefore masked by the US dollar-based figures, which MTN quotes in financial reports. Further, it is notable MTN experienced ARPU growthdespite special promotions which the operator introduced. This suggests the ARPU growth was driven by other factors, including increased levels of service usage and a trend towards the use of more lucrative data services. In 2010 MTN reported that data revenues accounted for 20% of total revenues.

Compared with the other markets in which MTN operates, Iran has one of the lowest rates of mobile ARPU. The low ARPU levels are undoubtedly due to the overwhelming predominance of prepaid services in the Iranian market. However, they also reflect MTN's continuing efforts to steal market share away from the dominant MCI, with price being used as a key competitive force. Despite this MTN, continues to expand its business into rural parts of Iran, and we expect this trend to contribute to the future erosion of the operator's ARPU.

Considering the dominance of prepaid subscriptions and low use of value-added services and mobile data across the market as a whole, we suspect MCI and the smaller operators have ARPUs that are similar to those of MTN.

3G

The Iranian authorities have yet to embark on a 3G licensing process. However, there are already clear signs of the potential demand in Iran for advanced mobile data services. The country's two national operators TCI and MTN Irancell offer GPRS-based data services. Meanwhile, Taliya, which is in the process of extending its network nationally, already offers WAP-based data services and announced plans to begin testing GPRS.

Irancell launched GPRS services in early 2007, allowing subscribers access to the internet from their mobile phones. The service was launched in late February and subscribers were able to use GPRS free until the end of March 2001 as an opening promotional offer. Parent company MTN has not released any figures on GPRS usage, which we believe is a sign of limited take-up.

Meanwhile, Iran's leading cellular operator, **TCI**, announced the launch of its GPRS-based service offering in November 2008. Comments in early 2009 by TCI's chairman suggest customer usage has so far been limited.

Towards the end of January 2009 UAE operator Etisalat, which had recently been awarded Iran's third national mobile licence, announced it would likely offer HSDPA services as part of its general launch of commercial operations in the second half of 2009. Etisalat had reportedly secured the right to be the exclusive 3G operator in Iran for two years. However, as a result of having subsequently had its licence withheld, Etisalat will no longer be launching 3G services as planned. Instead, Tamin Telecom will look to offer 3G services. The operator was formally awarded a licence to provide 2G and 3G mobile telecommunications services in Iran in April 2010 after securing a joint concession in December 2008 at a cost of US$399mn.

Tamin Telecom is being offered an exclusivity period of three years to provide its 3G services, according to the Communication Regulation Agency (CRA) as cited by TeleGeography in October 2010. Only after its exclusivity period expired will a second operator be allowed to enter the market. CRA vice president, Lotfollah Sabouhi, said: 'For sure I think we will open the market for another operator because we want fast growth in 3G services. But first of all this operator has this opportunity for the market, and after that we will open up the market for another operator.' It is understood this announcement disappoint the two national operators MTN and MCI.

Meanwhile, although 3G services have yet to be launched in Iran, this has not stopped Iranians from wanting to acquire 3G capable smartphone handsets. According to a recent article published by Reuters in mid-January 2010, the minimum retail price for the latest **Apple** iPhone handset 4.0 is US$880, while the price of an iPad ranges from US$680 to US$1,100 in the capital Tehran. Despite economic sanctions placed on Iran, Iranians are keen to acquire the latest handsets and gadgets, which are seen as a status symbol. Further, while access to some features on the iPhone and other similar smartphone handsets such as **RIM**'s BlackBerry is limited, it has not diminished their appeal. However, such items are available to only a select few given that the government started to cut back on fuel and food subsidies in December 2010 with the aim of saving the state up to US$100bn per year, and therefore tightening Iranian's spending habits, which could be heightened further if inflation – currently at about 10% – rises any further.

Mobile Contract Wins

Table: Mobile Contract Wins		
Date	**Contract Value**	**Details**
April 2008	na	Huawei Technologies signs an MoU with TCI that will see the firms collaborate on training. Huawei will be working with TCI at the Telecommunications College in Isfahan to offer joint educational programmes on wireline and wireless technologies.
March 2007	na	An Iranian consortium reaches preliminary agreements with Nokia to launch a cellular phone production plant in Iran.
March 2007	na	LG Electronics announces that it had started producing handsets in Iran with a local partner.
February 2006	na	MTN Irancell signs a deal with Nokia for the provision of the operator's core GSM network infrastructure in Iran.
March 2006	US$603mn	MTN Irancell signs multiple mobile network supply contracts with Nokia, Huawei and Ericsson. Nokia is contracted to supply Irancell's core network. The three vendors are each contracted to supply parts of the base station network in different regions of the country.
July 2004	na	Iran's Telecommunications Industries Company announces a joint venture with Nokia to develop a BTS mobile telecommunications industry in Iran.
January 2004	na	Turkey's Turkcell and Ericsson send wide-capacity mobile communications equipment and systems to meet emergency communication needs in the aftermath of the earthquake in Bam, Iran. Under the umbrella of Turkcell's fast deployable 'Emergency Communication System' project, initiated in co-operation with Ericsson, the communications network is set up within 24 hours of the equipment having reached the site.
May 2003	na	Ericsson receives a network equipment order from TCI. TCI reportedly said that the network would be operated by the Sweden-based pan-European telecommunications company Tele2 AB and RIC.
December 2002	US$5mn	Siemens wins a contract to set up a GSM network for Iran's KTC. The contract covers the swap of the existing Ericsson infrastructure and the migration of subscribers to the new network. Siemens would supply a complete GSM network and services including installation, commissioning and technical support.
August 2000	na	Nokia signs an agreement with TCI to further expand the GSM mobile network in Tehran. The GSM 900 network expansion supplied by Nokia, including switching and base stations systems, is to be used to bring further capacity to TCI's fast-growing network in the capital. In addition to infrastructure equipment, Nokia Professional Services will provide comprehensive service solutions for radio network planning and implementation.
April 2000	na	Ericsson is chosen by TCI to expand its nationwide GSM 900 network. The complete turnkey solution includes planning TCI's radio network and delivering radio base stations, switching and other equipment. One immediate task involved the rapid expansion of TCI's mobile network in the capital Tehran.

na = not available. Source: BMI

Mobile Content

Regional Outlook

In the Middle East and – to a lesser extent – North Africa, mobile value-added services (VAS) are becoming increasingly important to customers. Due to low service prices engendered by competition and the ability of even the most basic handsets to deliver text-based messaging services (SMS), users have become accustomed to accessing information, life tools and entertainment-based VAS. The relatively low cost of voice services mean, on the whole, voice service revenues and traffic will continue to outweigh the contribution of VAS for many years, but **BMI** regards the Middle East mobile VAS, in particular, as having the potential to grow quickly.

Video, M2M Driving Data Traffic Growth

Global Mobile Data Traffic Forecasts By Region (TB per month)
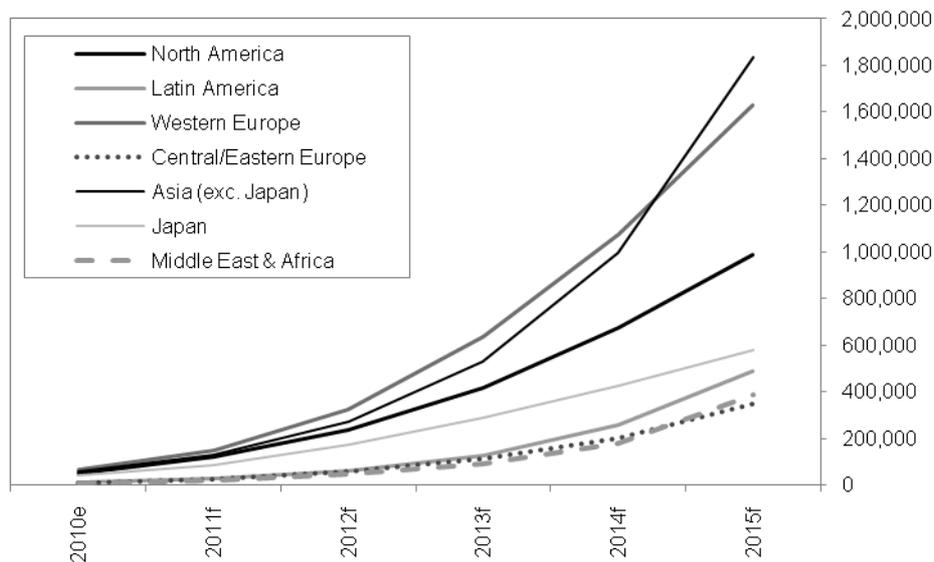
e/f = estimate/forecast. Source: Cisco Systems

A recent study by **Cisco Systems** suggests the Middle East and Africa region's monthly mobile data traffic volume will grow at a rate of 129% a year between 2010 and 2015, the fastest for any region in the world, although it only beats forecasts for the Asia region if Japan is treated separately.

The Middle East region benefits from the fact that there are several players active in multiple markets. This has enabled them to introduce a standard suite of service portfolios over hardware- and software-based infrastructure sourced from a small group of suppliers, contributing to ubiquity and uniformity. Further, several operators have been collaborating to develop and launch new kinds of VAS services following regional international roaming agreements. Key players in promoting the deployment and uptake of services such as mobile internet searching, mobile banking, gaming, video

downloading/streaming and social networking have included **Zain**, **Wataniya**, **Etisalat**, **MTN**, **Saudi Telecom Company** and **Batelco**.

Although the market for SMS and MMS services is well established in the region, a growing number of operators are deploying mobile TV, location-based services and contactless payment-based services, due to the deployment of next generation 3G technology such as HSPA/HSPA+. This builds on their existing GPRS and EDGE-based data platforms. The next technological milestone will be fourth generation (4G) standards such as LTE, although **BMI** feels it is only the most mature Middle Eastern markets such as the UAE, Kuwait, Saudi Arabia and Qatar that will benefit soonest from these advances, with innovations in services expected in more mature markets.

VAS Evolves

The region's operators continue to see customers' needs and expectations change and expand as new services and applications become available, handsets and mobile devices offer a wider range of features and the total cost of ownership of devices and services extends further across the socio-economic strata.

The earliest forms of mobile VAS included SMS, together with a limited range of pre-loaded monophonic ringtones and basic productivity tools such as personal organisers and calendars. The next generation of handsets came with cameras. Subsequent improvements led to the introduction of the megapixel cameras and the possibility of sending pictures and videos in the form of multimedia messages (MMS). Other services introduced during the second wave of mobile VAS development included mobile music that could be accessed through handsets incorporating digital media players. Meanwhile, a range of mobile tools for business users included services such as push e-mail and were preloaded with software for viewing and editing documents.

In the more recent third wave of mobile VAS development, technologies such as EDGE, UMTS and HSPA have revolutionised the sort of mobile content that can be offered. Downloadable ringtones, games and music, mobile wallpapers, video downloads and caller tunes have become popular with the mass market, while technologies such as Bluetooth have enabled people to share mobile content with others.

Osman Sultan, CEO of **Emirates Integrated Telecommunications Company** (du), believes that regional growth of mobile content and VAS will depend on operators' ability to combine handset and network technology on the one hand with clever marketing on the other, to offer customised services for specific audiences. However, there are a number of challenges that need to be overcome if this scenario is to play out. These include the desire of governments to control and limit customer access to mobile internet-based applications. Another key issue holding back VAS development in the MENA region is a lack of local language-based content. It is not enough to merely make available the online content of local newspapers and television stations. Films, books, music and enterprise-based applications and solutions

need to be relevant to local users, but **BMI** believes that there are few efforts to make that content available. As a result, end-users will be more reluctant to adopt mobile VAS.

In February 2010, however, **Qtel** of Qatar announced plans to open a Mobile Entertainment Forum (MEF) office in Doha to boost the volume of locally produced content and applications for mobile devices. Qtel aimed to build 'a sustainable ecosystem and accelerate the growth of the mobile media industry' in the MENA region. Qtel said that content and applications developed by the group would be made available to other operators in the region.

Kuwait-based Zain Group announced in July 2010 a cooperative agreement with Jordan's **Ijazza** to create Arabic content applications for internet and mobile phone users. Zain suggested that the percentage of Arabic content offered to mobile phone users did not exceed 1% at that time, highlighting this issue as a major barrier to VAS adoption.

In Q210, Zain appointed **GETMO Arabia** as its international music content aggregator, providing services to Zain customers in seven Middle East markets, which launched with the release of the official FIFA World Cup Album from **Sony Music**. As part of the agreement, GETMO Arabia is aggregating music from a number of international record labels. GETMO Arabia will also be providing content from music labels contingent with Zain's territorial coverage to suit local music tastes and preferences in each market.

Soon afterwards, Zain teamed up with the singer Fairuz, securing the prelaunch rights to her first album in four years, giving customers exclusive access to downloadable ringback tones.

Later in 2010, **Zain Bahrain** launched 'eeZee', tailor-made prepaid packages for BlackBerry smartphones, which allow customers to purchase BlackBerry data bundles, track their data usage and top up by dialling a dedicated number. Customers could access a BlackBerry bundle of 200MB for 30 days and additional low-cost data usage. With internet browsing and BlackBerry Messenger as well as access to instant messaging and social networking applications – such as **Facebook** and **MySpace** – customers could stay in touch with colleagues, family and friends while on-the-go.

Additionally, **Zain Kuwait** launched a special offer for eeZee customers allowing them unlimited high-speed internet access on their smartphones. To increase efficiency and meet the considerable demand for internet services and data transfer, Zain underwent a comprehensive expansion of its network across Kuwait. The eventual launch of LTE with 150Mbps for loading and 50Mbps for transmission will give customers faster data download speed.

M-Commerce Should Find A Willing Audience
Mobile commerce (m-commerce) applications and services are growing in popularity around the world

and key regional operators such as Zain, **Orascom Telecom**, MTN, **Vodacom**, Wataniya and Etisalat are rolling out services in many of the markets in which they operate. Zain launched its Zap-branded m-commerce service in three African nations in February 2009; additional African markets followed in early 2010, and **BMI** expects the services to begin to find an audience in the Middle East now that Zain has sold off its African business in order to focus on the MENA region. The company is deploying HSPA 21.1Mbps and 42Mbps networks and upgrades in Bahrain, Jordan, Kuwait and Saudi Arabia to help meet rising demand for data services over its networks. During 2010/2011, Zain has been modernising its packet core solutions in Iraq, Jordan and Sudan. And, in Bahrain, Jordan and Saudi Arabia, Zain has been deploying fibre-optic cable and multi-protocol label switching (MPLS) technology to help deliver advanced enterprise solutions for mobile broadband users. The company is also looking to LTE for its future migration path.

Zain Jordan was the first mobile operator in the Middle East to launch 'E-mal' in January 2011 allowing customers to: deposit and withdraw cash from their m-wallet; send money to Zain Jordan customers even if they are not registered with the service; settle their own bills or any other Zain Jordan's customer bill; and top up their or any other Zain Jordan's customer airtime account.

Zain Jordan is partnering with **Capital Bank** to introduce 'Zain E-mal' in addition to signing agreements with **Tamweelcom** to provide micro-finance services and with **Middle East Payment Services** (MEPS), which will also provide customers with a branded MasterCard.

The service will also be launched in Bahrain in 2011 and in the other Zain operations once regulatory approvals are obtained. After these launches, Zain customers in Jordan and the other participating countries will be able to send and receive money with 'Zain E-mal' across borders using Zain's 'One Network' as the service delivery platform.

M-commerce services are also becoming increasingly network-agnostic. In March 2011, the **KFH-Bahrain** bank announced the launch of its free iPhone and BlackBerry applications, offering services including finance and Baytik Ijara calculators, news, locations of Baytik Ijara merchants, ATMs and branches, and the latest information about KFH-Bahrain's products and services. Customers can download the apps on iTunes or www.kfhapps.com. The company plans to add more services in the near future. The KFH-Bahrain mobile applications will also work on other WAP-enabled mobile phones.

Also in March 2011, Qatar-based financial services provider **Doha Bank** launched a mobile banking service. The tool was initially available for the iPhone, BlackBerry and Android mobile devices. The service allows customers to access their bank accounts details, make instant transfer of funds between own accounts or to any registered third party beneficiaries and pay registered utility and credit card bills. As a service launch promotion, Doha Bank offered four iPhone 4 16GB handsets to customers subscribing to its m-banking service during the initial months of the launching phase in a bi-weekly draw.

Doha Bank will offer immediate remittances through mobile banking to 13 countries, including India, Bangladesh, Egypt, Jordan, Indonesia, Lebanon, Nepal, Oman, Pakistan, the Philippines, Sri Lanka, Turkey and Yemen. The bank's mobile banking application for the iPhone, BlackBerry and Android is now available online for free download. Once the application has been installed onto the device, Doha Bank customers can log in to their banking accounts and carry out transactions directly from their mobile phones. iPhone users can download the free Doha iPhone application from the Doha page at the **Apple** store. The BlackBerry and Android application is available for free download.

Country Outlook

Compared with other regional mobile markets, Iran can be considered to be at an early stage in the deployment of mobile VAS. Although all of the country's mobile operators offer basic voice-based VAS such as call forwarding, call barring, caller ID (call line identification presentation, or CLIP), conference calling and voicemail, the market for data services has, until recently, been limited to SMS.

Since the start of 2007, Iran's operators have begun to install GPRS over their existing mobile networks. The launch of GPRS technology by **MTN Irancell**, in February 2007, can be regarded as an important milestone in the development of mobile VAS in Iran. The launch of Irancell's GRPS service coincided with the deployment of an MMS offering. One month after Irancell's GPRS service launch, incumbent TCI announced that it planned to launch GPRS services in Q207. The operator noted that its GPRS roll-out would enable customers to use more advanced data services such as MMS messaging. At the end of 2010, MTN Irancell announced it had 10.6mn users and that this had contributed to revenue growth during the year. Data and SMS revenues accounted for 20% of total revenues at ZAR9.2bn, up by 21% y-o-y.

In November 2008, it was reported that **TCI** had passed the initial technical testing of its GPRS service, and that it planned to launch the service commercially in the near future. Although TCI's GPRS service is now believed to be up and running, the operator's chairman indicated in March 2009 that a lack of practical software was among the reasons why GPRS and MMS services were not being widely welcomed in the country. It is unclear whether these comments related specifically to TCI's GPRS/MMS offering, or whether they referred to the general success of these services in the country.

Recent studies have found that data-based mobile VAS are growing in popularity, underpinning a belief that the market has strong growth potential. A telephone survey carried out by InterMedia between December 2007 and January 2008 found that 80% of Iranian adults over 15 years of age used their mobile phones to send or receive text messages. Meanwhile, 37% of respondents said they used they used their phones to send photos, and 31% said they played games on their phones. A smaller number (7%) said they used their phones to access the internet and surf the web. Bearing in mind that currently only WAP and GPRS services are available, this can be seen as a relatively high proportion.

It is still early days for the development of MMS and other multimedia services in Iran. **BMI** believes that the potential for these and other mobile VAS to develop is significant. MMS usage is not growing as quickly as in other markets that have introduced the service, but this may reflect the impact of government attempts to control the use of the technology (*see Regulatory Environment section for more information*).

In January 2009, third-ranked **Taliya** became the third Iranian cellular operator to announce plans to implement a GPRS and MMS pilot project. According to reports, Taliya planned to initiate GPRS testing in conjunction with a Swedish company. Taliya also announced plans to activate an urban global positioning system (GPS) service for taxis. Taliya already offers a WAP-based service which supports limited internet browsing at speeds of up to 14.4Kbps.

Growth of mobile VAS services is being encouraged by the Iranian government, which sponsored a mobile VAS conference in February 2010 in the country. The International Mobile VAS Conference held in Tehran on February 23rd-24th, was created to alert overseas content companies to the market opportunities available within the country.

SMS

All of Iran's mobile operators, including the smaller regional operators **MTCE** and **TKC**, offer SMS services. So-called 'value-added SMS services' offered by MTCE include a mobile dictionary service, which enables customers to translate words in Farsi into English and vice versa, and a 'Mobile Qur'an' service, which enables users to receive verses from the Qur'an in English and Persian by entering the verse and Surah Number.

Iran's second largest mobile operator, MTN Irancell, also offers value-added variations on its basic SMS service. These were launched in Q207 under the 'Vitrin' brand. Vitrin SMS services allow users to receive 'requested SMS' (SMS sent to the subscribers based on their requests, such as the latest news, weather forecasts, jokes, quotes, etc.) and 'registered SMS' (including SMS sent to subscribers at a predetermined time or immediately after an event has happened). By the end of 2010, MTN Irancell noted that 89% of its data revenues (including SMS), accounting for 20% of total revenues, were made up of SMS revenues. SMS-based services continued to account for 90% of total data revenues as of H110.

In January 2011 MTN introduced a new location-based service which can be used in several major cities, including Tehran, Karaj, Tabriz, Esfahan, Shiraz and Mashhad. The new service can be used for identifying the geographical location of a friend and inform them of a subscriber's whereabouts. The friends' location is notified to the subscriber using SMS or MMS.

Mobile Banking

Iran's banks and mobile operators have announced a number of cooperative ventures to provide customers with ATM-based top-up facilities, as well as a broader range of mobile banking services. For example, in September 2008, Taliya announced the launch of an ATM top-up facility whereby prepaid customers can use ATM machines to buy more airtime. Meanwhile, in March 2009, **Melli Bank** launched a service by which all prepaid SIM cards belonging to **MCI**, Irancell or Taliya can be recharged through its ATM terminals. To use the service, customers select the 'charge prepaid SIM card' option on the ATM's main menu and then enter the recharge amount. The terminal then issues a receipt containing a serial number and password that the customer enters into their mobile handset.

In March 2009, Iran's **Tejarat Bank** announced the launch of an SMS banking service, which is available 24/7. The new SMS banking enables subscribers to receive information from their account, transfer money between selected accounts and pay utility bills.

Tejarat Bank's service offering is not the first of its kind in Iran. In February 2009, it was announced that Post Bank would co-operate with MCI in order to implement a mobile payment service using USSD2 technology. The service uses SMS to transfer information.

In November 2010 MTN Irancell announced the introduction of a mobile banking service which allows subscribers to buy airtime and pay utility bills. MTN plans to introduce a number of other services, including transferring money, account balance inquiries and receiving bills.

Value-Added Services Timeline

Table: Selected VAS Services

Date	Details
May 2011	MTN Irancell launches a mobile newspaper service for its customers.
January 2011	MTN Irancell launches a location-based service in Tehran, Karaj, Tabriz, Esfahan, Shiraz and Mashhad. The new service can be used for identifying the geographical location of a friend and inform them of a subscriber's whereabouts. The friends' location is notified to the subscriber using a SMS or MMS.
November 2010	MTN Irancell launches a mobile banking service which allows subscribers to purchase airtime and pay utility bills. Other services to be introduced soon include transferring money, account balance inquiries and receiving bills.
November 2009	TCI announces its new mobile payment service will be available by the end of current Iranian year (March 2010). MCI revealed it would introduce 30 new services at the Iran Telecom 2009 Exhibition. In addition to mobile payments, the new services would include wait tone and mobile news.
March 2009	MTN Irancell launches an advanced version of its SIM card to SIM card recharge transfer service for increased security.
March 2009	TCI announces that a lack of practical software is among the reasons why GPRS and MMS services are not being widely 'welcomed'.
March 2009	Tejarat Bank launches 24/7 SMS banking.
March 2009	Melli Bank launches a service whereby all prepaid SIM cards belonging to MCI, Irancell or Taliya can be recharged through its ATM terminals.
February 2009	Post Bank announces it would co-operate with MCI to implement a mobile payment service.
January 2009	Taliya announces plans to implement a GPRS and MMS pilot project in conjunction with a Swedish company. Taliya also announces plans to activate an urban GPS service for taxis.
November 2008	TCI passes the initial technical testing of its GPRS service.
September 2008	Taliya launches an ATM top-up facility whereby prepaid customers can use ATM machines to buy more airtime.
September 2008	MTN Irancell allows subscribers to choose their own mobile phone number.
Q207	MTN Irancell launches a prepaid plan called Data Sim, a SIM card that is capable of data and messaging only.
Q207	MTN Irancell introduces its 'friends and family' and 'who called' services. The operator also launches its Vitrin SMS service, which allows users to send SMS-based ringtones at a pre-determined time and web-based SMS services.
March 2007	TCI announces it would launch GPRS services in Q207. The GPRS roll-out will enable customers to use more advanced data services such as MMS.
February 2007	MTN Irancell announces the launch of GRPS together with MMS. Other mobile VAS introduced in Q107 included online registration and a balance enquiry service.
October 2006	MTN Irancell launches commercial GSM services, offering a range of mobile VAS including SMS, call forwarding, conference calling, CLIP and call barring.
2003	TKC launches SMS services with international coverage.

Source: BMI

Mobile Operator Data

Table: Iran Mobile Market Overview									
Subscriber Numbers ('000)	Dec-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-10	Sep-10	Dec-10
Total Mobile Subscribers	47,115	50,507	52,570	55,642	59,167	62,395	64,927	67,296	67,500
Q-o-Q Growth (%)	na	7.2	4	6	6	5.5	4.1	3.6	0.3
No of Net Additions	4,036	3,392	2,063	3,072	3,525	3,228	2,532	2,369	204
Q-o-Q Growth - Net Additions (%)	6.8	-15.9	-39.2	48.9	14.7	-8.4	-21.6	-6.4	-91.4

na - not available. Source: Operator Results, BMI Research

MTN Irancell									
Subscriber Numbers ('000)	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-10	Sep-10	Dec-10	Mar-11
Total Number	18,252	19,187	20,702	23,260	25,386	26,967	28,486	29,743	31,391
Tech: GSM (2G)	18,252	19,187	20,702	23,260	25,386	26,967	28,486	29,743	31,391
Market Share (%)	36.1	36.5	37.2	39.3	40.7	41.5	42.3	44.1	na
No of Net Additions	2,213	935	1,515	2,558	2,126	1,581	1,519	1,257	1,648
Market Share of Net Additions (%)	65.2	45.3	49.3	72.6	65.9	62.4	64.1	617.1	na

na = not available (Irancell only launched services in Q406)

Table: Hamrahe Aval (Mobile Communications Company of Iran)

Subscriber Numbers ('000)	Dec-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-10	Sep-10	Dec-10
Total Number	28,602	29,542	30,486	31,875	32,623	33,473	34,223	34,923	36,937
Type: Prepaid	10,554	11,126	11,698	12,285	12,872	13,389	13,689	14,318	na
Type: Postpaid	18,048	18,416	18,788	19,590	19,751	20,084	20,534	20,605	na
Tech: GSM (2G)	28,602	29,542	30,486	31,875	32,623	33,473	34,223	34,923	36,937
Market Share (%)	60.7	58.5	58.0	57.3	55.1	53.6	52.7	51.9	54.7
No of Net Additions	828	940	944	1,389	748	850	750	700	2,014
Market Share of Net Additions (%)	20.5	27.7	45.8	45.2	21.2	26.3	29.6	29.5	988.7

na = not available. Source: Operator Results, BMI Research

Taliya (Rafsanjan Industrial Complex)

Subscriber Numbers ('000)	Dec-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-10	Sep-10	Dec-10
Total Number	2,417	2,655	2,837	3,004	3,222	3,472	3,672	3,822	800
Type: Prepaid	2,417	2,655	2,837	3,004	3,222	3,472	3,672	3,822	800
Type: Postpaid	0	0	0	0	0	0	0	0	0
Market Share (%)	5.1	5.3	5.4	5.4	5.4	5.6	5.7	5.7	1.2
No of Net Additions	306	238	182	167	218	250	200	150	-3,022
Market Share of Net Additions (%)	7.6	7.0	8.8	5.4	6.2	7.7	7.9	6.3	-1483.6

Source: BMI, other operators, regulatory data

Fixed Line

Iran's state-owned incumbent operator in Iran, **TCI**, has yet to publish operational data for the end of 2010. The latest official figures for the number of fixed telephone lines in Iran continue to relate to the end of June 2010.

Fixed Lines

According to TCI, there were a total of 25.804mn lines in service at the end of 2009, representing a y-o-y increase of 4% y-o-y from 24.8mn lines one year earlier. During 2008, the number of fixed lines rose by 4% y-o-y, while during 2007 the number of lines rose by 5.3%.

New figures from the ITU suggest Iran had 26.849mn fixed telephone lines in service at the end of 2010. This reflects growth of 4% during 2010, the same as in 2009. There is little evidence of any significant slowdown in growth for Iran's fixed-line market. Demand for fixed-line services continues despite the maturity of the country's mobile market. Elsewhere, mature mobile markets with high mobile penetration rates have become associated with falling demand for fixed-line services.

Historical data indicate TCI continues to dominate the market. Latest figures from the operator indicate that it had 25.410mn fixed lines at the end of June 2010, up from a little more than 25mn at the end of 2009 and compared to 24.5mn at the end of 2008.

Considering the maturity of Iran's mobile market, the continued expansion of the country's fixed-line sector is unusual. Looking at the available data, it appears the continued expansion of fixed-line infrastructure is mainly due to network deployments in rural areas. However, TCI appears to have stalled in its efforts to connect parts of Iran that are currently underserved by its wireline network. In particular, the operator has focused on increasing the number of villages that are connected to its network. According to latest data for June 2010, the number of connected villages reached 52,600, while some 9,800 villages are equipped
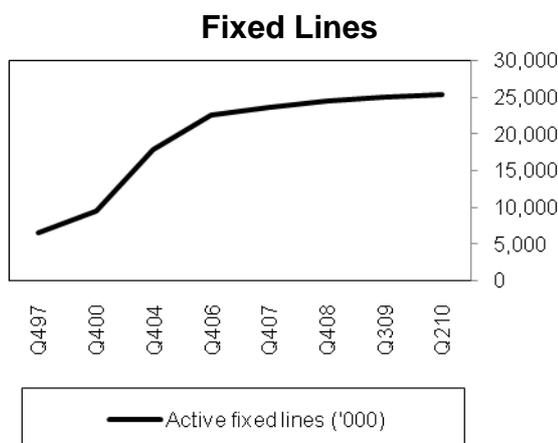
TCI Optical Fibre Network Expansion 1997-2009
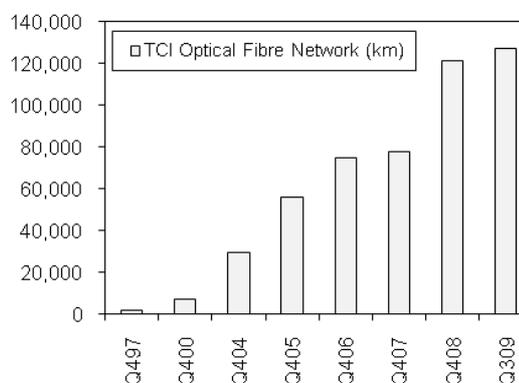
with rural ICT services. The number of connected villages in H110 represented a decline from the 62,120 at the end of 2009. As for the number of TCI-connected villages, this increased from 43,800 at the end of 2004 to 53,845 at the end of 2008.

While TCI has not provided any further information with regard to the development of its national optical fibre network, we believe that the operator continues to steadily expand its network. The latest government information suggests that, in the first nine months of 2009, TCI added a further 6,000km of optical fibre from the 121,000km in 2008, which was up from 76,000km at the end of 2007.

Iran's incumbent telco argued that the deployment of optical fibre has helped it provide better local, national and international connection for voice, data and multimedia transmission services. The TAE (Asia-Europe) project is one of the measures taken by TCI to connect Asia to Europe, through Iran, by means of a 2,200km optical fibre cable. Among the other projects that TCI has recently been involved in is the 150km Iran-Afghanistan optical fibre cable system. In April 2008, it was revealed that Chinese equipment vendor **Huawei Technologies** had signed an MoU with Iran's TCI that will see the two firms collaborate on training. According to local reports, Huawei will be working with TCI at the Telecommunications College in Isfahan to offer joint educational programmes on wireline and wireless technologies.

Further, Qatar-based submarine cable operator Gulf Bridge International (GBI) signed an agreement in April 2010 with the Telecommunications Infrastructure Company of Iran (TIC) for the landing of GBI's submarine cable in the country. The submarine fibre-optic cable will help TIC in connecting Iran to various countries in the Gulf region and Europe. The cable will also help Iran in further developing connectivity with several countries in the Central Asian region. The cable system is due to be launched in 2011.

TCI Privatisation

Preparations to privatise Iran's fixed-line incumbent have been characterised by a mixture of high expectations, disappointment and controversy. In May 2007, a representative from the Iranian Privatization Organization announced that a majority stake in monopoly provider TCI would be sold by the end of September 2007. In mid-June 2007, Supreme Leader Ayatollah Ali Khamenei urged the government and officials to speed up moves to reduce the government's economic role by reviving the privatisation process. TCI's Managing Director Saber Feizi said in late July 2007 that three foreign companies from Asia, Europe and the Middle East had already submitted official requests to buy a stake in the company. One of these companies was reported to be the Russian operator Altimo.

Despite the early optimism surrounding the privatisation of TCI, by end-2007, no visible progress had been made towards achieving this goal. In September 2007, Deputy Communications and Information

Technology Minister ,Vafa Ghaffarian, announced 51% of TCI would be privatised before the end of the Iranian calendar year on March 20 2008. Although the privatisation of TCI did not take place by the date set, reports suggested that the Iranian government was still committed to selling the operator.

As a forerunner to the sale of a controlling stake in TCI, a 5% stake in the operator was scheduled to be floated on the Tehran Stock Exchange before the end of December 2007. The floatation finally took place in August 2008.

Meanwhile, in April 2008, TCI Chairman Saber Feizi reportedly suggested that the 31 companies belonging to TCI should be interconnected in such a way as to make it impossible to separate them when the company is eventually privatised. Feizi therefore stressed that TCI would be sold along with all its subsidiaries. However, he also suggested that this would not happen in 2008, as the necessary amendments had been made to TCI's budget. The privatisation of TCI is based on Article 44 of Iran's constitution, which also blocks the creation of any new industrial monopolies. This has raised the possibility that TCI may lose its monopoly status after privatisation, through the licensing of new fixed-line providers.

In November 2008, the government announced that the part-privatisation of TCI would take place before the end of the Iranian calendar year on March 20 2009. However, in January 2009, it was reported that the government had once again delayed the planned sale. Feizi was reported as saying that the documents for the tender would not be available to interested parties until mid-March 2009 at the earliest. According to media reports, the state was expected to offload up to 49% of TCI's shares, with foreign telecoms companies able to hold up to 35%, and local partners the remainder. Another 5% is held by employees and 20% was reserved for poor Iranian families. Local press reports in December 2008 suggested that firms from Russia, Turkey, China and Indonesia were chasing a stake in TCI. The press reports did not name the potential investors. However, in October 2008, **PT Telekomunikasi Indonesia** (Telkom) stated that it was looking to acquire a stake in the company.

In late September 2009, it was reported that local consortium Etemad Mobin paid more than US$7.8bn to secure a 50% plus one share stake in TCI. Etemad Mobin comprises three companies, two of which are reportedly controlled by the Iranian Revolutionary Guard. A few weeks after the announcement, it was reported that Iran's General Inspections Organisation (GIO) had launched a probe into the connections between Etemad-e-Mobin and the Iranian Revolutionary Guard.

In November 2009, it was announced by the Mehr News Agency that 50% plus one share of TCI had been offered over the stock market to Tose'e Etemad Mobin consortium for IRR77.985trn.

Internet

According to the last set of official figures to be published on Iran's telecoms sector, the country had a total of 23mn internet users at the end of September 2009. **BMI** estimates that by the end of 2009 the number of internet users increased to 23.5mn. This represents a penetration rate of 32.2% and reflects growth of 11.9% over the previous year. In 2008 the number of internet users rose by more than 64% y-

TCI Internet User Growth
2006-2009

Source: TCI

o-y. This significant slowdown in growth suggests the limit of the country's addressable market is already being reached.
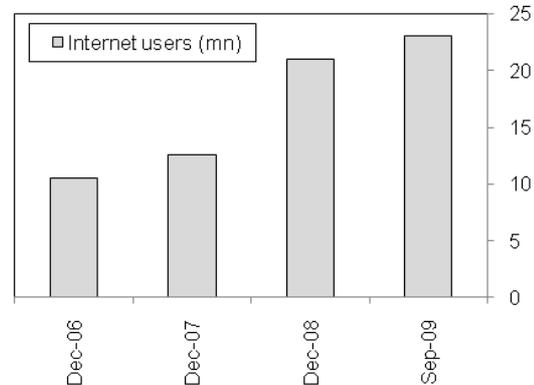
As with the fixed-line sector, Iranian incumbent operator **TCI** dominates the internet market. Although the operator has yet to publish its figures for the end of 2009, it did report having 23mn users at the end of September 2009.

TCI previously expressed plans to expand its internet user base to 30mn by the end of 2009, although this target does not appear to have been reached. Nevertheless, it needs to be remembered that accurately calculating the number of internet users can be a challenging task in the majority of countries. One difficulty in calculating the number of internet users in Iran is the way in which many internet users access the internet at public facilities such as libraries and internet cafés. It is also the case that shared household connections provide internet access to multiple users. Although TCI continues to publish internet user figures, the operator has not given any indication of the size of its internet subscriber base.

TCI's internet unit **Data Communication Company of Iran** (DCI) announced it had 50,818 data access ports in December 2008 (compared with 36,806 at the end of 2007). Meanwhile, by the end of September 2009, 1,223 cities were connected to TCI's IT network, due to the expansion of its fibre-optic network; this figure was up from 1,205 at the end of 2008, 1,086 at the end of 2007 and 942 cities at the end of 2006. It was reported by the TCI that as of June 2010, there were about 99,000 data ports in the country, although **BMI** believes this figure does not relate solely to TCI ports.

During 2008, TCI added another 44,000km to its optical fibre network, raising the total number of kilometres to 125,000km. According to the latest data from the operator, an additional 7,000km of optical fibre were deployed in the first nine months of 2009. This raised the total number of kilometres to 132,000km. International bandwidth capacity was increased from 10,870Mbps at the end of 2007 to

22,992Mbps at the end of 2008. By the end of September 2009 (latest available data), international bandwidth capacity had been raised to 26,154Mbps.

In 2007, reports surfaced in the media about the poor level of service provided on TCI's network. Limited network capacity has traditionally affected other ISPs that have purchased capacity over the network to sell on to end consumers. According to Taliya News, service outages occurred as frequently as once every month. Further, additional problems occurred as a result of insufficient back-up capacity; this is designed to ensure that traffic can be handled if a problem occurs with the main fibre network.

Ongoing investments by TCI in the expansion of optical fibre and international bandwidth capacity should go some way towards improving internet service quality. According to a report in March 2010 by news agency Zawya, TCI has announced plans to extend the National Internet Network (NIN) to achieve true national coverage over the next 12 months. It is understood that the expansion project would also increase network capacity fourfold. Mohammad Ali Aryanian, TCI's deputy director of IT, is reported as saying that contractors were in the process of setting up facilities and equipment for the upgrade, which will come on stream within six months.

Iran is reported to have over 1,200 ISPs, many of which operate in individual regions. Current regulations stipulate that Iran's ISPs have to rely on TCI for their bandwidth. Previously, Iranian ISPs had to rely on TCI's PSTN. Increasingly, however, Iran's ISPs have access to the modern data line capacity provided by TCI's national IP-based network.

Meanwhile, several Iranian companies, including TCI, are involved in different initiatives which are aimed at expanding the amount of international bandwidth capacity. In November 2009, it was reported that privately owned Iranian company **Iran Mobin** had formed a 50/50 equity joint venture with **C-Ring Telecom**, itself a venture of Russian long-distance operator **Synterra** and Azerbaijan's **AzTelekom**. The project aims to collaborate on the planned rollout of a new fibre-optic ring around the Caspian Sea to handle Europe-Asia voice and data transmission and improve internet service delivery in the Caspian region. Iran Mobin will connect to the C-Ring network through the backbone of state-owned **Telecommunication Infrastructure Company** (TIC), the only backbone infrastructure operator in Iran. For its part, TIC has signed an agreement with another Russian carrier, **Rostelecom**, to share international transmission links. The two companies were reported in April 2010 to have signed a signed a joint memorandum of understanding to act as strategic partners to create a North-South telecommunications transit corridor. The project reportedly aims to meet growing demand for telecommunications services in the Caspian and Middle East region and shall increase the capacity of international backbone links to transit voice traffic and internet access. As the first step the memorandum includes the joint modernisation of national networks and relevant international border crossings through installation of DWDM, increasing total capacity of the transit corridor to 100Gbps.

Separately, it was reported in April 2010 that Middle Eastern submarine cable operator, **Gulf Bridge International** (GBI), and TIC had agreed to land GBI's submarine cable in Iran. The GBI International Cable Network is planned to connect Iran with the Gulf region and the rest of the world, through a high-capacity submarine fibre-optic cable linking the region to India and the Far East through the East Route and to Europe through the West Route. In addition, the agreement will facilitate onward connectivity to many central Asian countries including Pakistan, Afghanistan, Turkmenistan, Azerbaijan and Armenia. Designed to operate for 25 years and enter service during 2011, the GBI cable will reportedly seek to satisfy increasing demand for reliable high-speed capacity in the Gulf region.

Broadband

There were a total of 400,000 fixed broadband subscribers at the end of 2009, representing a y-o-y increase of 33.3% from 300,000 in the previous year. However, these figures are at odds with those previously provided by TCI, which reported there to be 600,000 subscribers at the end of 2008 and which **BMI** has previously based its own forecasts on. However, this higher figure is understood to include wholesale broadband connections that are sold to other ISPs. By the end of 2009, we estimate that this figure had risen to 1.14mn. This is equivalent to a penetration rate of 1.6%. The low penetration rate compared with other nations in the region illustrates the limitations that high-speed internet services face in Iran. As we have previously noted, these include the various forms of government interference in the sector.

DSL services were first introduced to Iran in 2004. In March 2004, **Alcatel** announced that it would supply the first DSL network in Iran. The contract was signed with **Asre Danesh Afzar** (ADA), a privately owned ISP. According to the terms of the deal, Alcatel was to provide 100,000 DSL lines over a three-year period. The DSL lines were aimed at providing large numbers of users in Tehran and across the country with a high-speed internet connection, and in time access to a breadth of broadband services. The first phase of the agreement, completed in May 2004, covered the deployment of 23,000 lines.

Other ISPs that offer DSL-based broadband services include **CTEL Kish** (formerly **Parsun Network Solutions**), **Datak Telecom**, **Pars Online** and **Shatel**. Pars Online was founded in 1999 and provides dial-up, ADSL and VSAT services. Meanwhile, CTEL Kish, Datak and Shatel all offer ADSL+ services.

Although ADSL is the main form of broadband internet connectivity, other broadband technologies have emerged and have the potential to grow in significance. For example, **Laser Company** announced in January 2007 that all of Tehran's districts had been covered by its WiMAX-based wireless broadband network.

In March 2009, it was reported that WiMAX licences had been awarded to four companies, enabling them to launch services in specific provinces of Iran. Mobile operator **MTN Irancell** was licensed to provide WiMAX services in the six provinces of Tehran, East Azarbaijan, Isfahan, Razavi Khorasan, Fars

and Khuzestan, however, the operator has stated that take-up remains slow on account of bandwidth and content limitations. Two other companies, **Espadan** and **Rayaneh Danesh Golestan**, were respectively permitted to offer WiMAX services in Isfahan Province and Golestan Province. It is understood that a fourth operator, **Mobin Net**, was licensed to provide WiMAX services in all 30 of Iran's provinces. At the ceremony at which the licences were awarded, the president of Iran's Radio Communication and Regulations Organization reportedly spoke about government policy on providing greater public access to broadband services, noting the ability of WiMAX to offer high-speed network access at a reasonable cost.

In November 2009, Mobin Net announced that it was in the process of launching 100 BTS sites for its WiMAX network and planned to launch commercial services by December. Mobin Net's Hosein Riazi was quoted by Mobna news agency as saying that, 'preliminary works for WiMAX service have been carried out and Mobin Net is completing BTS sites in 30 provinces'.

In May 2007, it was announced that plans for the Iran National Internet Network (ININ) had been approved by the Iranian cabinet. The cabinet authorised TCI to spend about US$566mn on developing its internet network over the following three years.

Despite having already committed some US$20bn to the development of a next generation network (NGN), Iran's government has continued to restrict the use of broadband services by residential users. According to latest press reports in February 2010, the Iranian government had blocked access to a number of foreign-owned sites including **Yahoo!**, **BBC**, **Voice of America**, as well as social networking sites such as **Facebook** and **Twitter**. In addition, e-mail sites such as Gmail and Yahoo Mail were also said to be difficult to access. These latest attempts by the Iranian government to block access are largely attributed to the Egyptian uprising, which is said to be an extension of the anti-government Green Movement in Iran following the presidential elections in 2009, in protest to election fraud and government oppression of peaceful protests.

Further, the Iranian government has justified its restrictive practices by appealing to the need to combat Western cultural influences. In a similar instance, in October 2006 it was reported that the government had banned high-speed internet links faster than 128Kbps in order to stifle domestic political dissent and combat the influence of Western culture. This decision by the government – ostensibly to clamp down on Western media influences – will not, however, extend to the corporate sector; it has been suggested that the government fears the economic consequences that such a clampdown might have on business sentiment.

The continued concern by the Iranian government relating to the spread of outside information within the country remains at the fore. Several press reports have highlighted that the government is seeking to create a separate internet network for domestic use only following the June 2009 presidential election, in which the internet disseminated news and images, and clearly convinced the authorities that they urgently

needed their own, controllable version of the web. A further reason to launch a domestic 'intranet' the government argues is based on national security. The country's internet traffic is routed through global networks, which generally travel through the US before reaching Iran. Meanwhile, also arguing in favour of a domestic network is that it would make internet service cheaper allowing for faster internet speed through increased bandwidth. Already over the last four years, Iran's government has transferred the hosting of most official websites to domestic servers. However, the creation of such a network is likely to be met with delays, deviation from its original objectives while it will also section off Iran into an reclusive state.

Regulatory Environment & Industry Developments

Table: Iran's Regulatory Bodies And Their Responsibilities	
Regulatory Body	**Responsibilities**
Ministry of ICT Dr Ali Shariati Avenue Tehran Iran 1631713461 Tel: +9821 811 3355 Fax: +9821 811 3926 Web: www.ict.gov.ir	▪ Overseeing the implementation of the information and communication technology (ICT) national development plan. ▪ Drafting national telecommunications policy. ▪ Drafting and implementing amendments to existing legislation or new laws, as necessary. ▪ Issuing licences, concessions and general authorisations. ▪ Mediating interconnection agreements between operators, where relevant. ▪ Regulating tariffs for dominant operators and establishment of calculations for setting prices for other operators. ▪ Monitoring of frequencies and interference with use of the frequency spectrum. ▪ Cooperation with government and state security organisations on issues relating to wireless activities.

Legislation And Market Liberalisation

Iran has partially liberalised its telecoms sector, with the presence of competition and numerous private sector operators in the mobile telephony, data services and internet sectors. In contrast, the fixed-line market remains a monopoly under the controlling influence of the Ministry of Communications and Information Technology (MICT).

Iran's privatisation programme was launched during the government of Mohammed Khatami in the late 1990s. One of the objectives behind selling shares in key state enterprises was the desire to attract greater foreign investment. The government's privatisation programme also forms part of a wide-ranging economic liberalisation programme.

In December 1999, Iran's majlis, or parliament, approved Article 122 of the 'Third Five-Year Economic Plan,' which gave wider powers to the MICT (which at the time was called the Ministry of Post Telegraph and Telephone). In accordance with Article 122, the ministry was granted powers to authorise private sector companies looking to establish communications networks in Iran. These included companies seeking to set up mobile phone networks, low capacity telephone exchanges (with up to 5,000 numbers), data transfer networks, value-added service networks, rural communication networks, postal networks and postal transport networks. Article 122 further allowed the MICT to license private and co-operative telecoms companies to set up communications networks in areas in which no such networks were offered by government-owned companies. In addition to removing government monopoly control

over the provision of telecoms services, Article 122 of Iran's Third Five-Year Plan established the foundations for increased public participation and foreign investment in the country's telecoms sector, and for the eventual creation of an independent regulatory body.

In 2007, Supreme Leader Ayatollah Khamenei requested that government officials speed up implementation of the policies outlined in the amendment of Article 44 of the country's constitution and move towards further economic privatisation (the pre-amended Article 44 of the constitution had decreed that core infrastructure should remain state run). Khamenei also suggested that ownership rights should be protected in courts set up by the justice ministry in the hope that this new protection would give an additional measure of security and encourage private investment.

Iran has reportedly indicated that it will no longer make a distinction between domestic and foreign firms that wish to purchase state-run companies as long as the combined foreign ownership in any particular industry does not exceed 35%. Among the new incentive measures announced, foreign firms may also transfer their annual profit from their Iranian company out of the country in any currency they wish.

In its May 2008 review, the IMF praised Tehran for its divestment programme, which essentially transfers the ownership of state assets into private hands, while also underscoring that the programme was being carried out in a speedily and efficient fashion. According to the chairman of the Iranian Privatization Organization, Gholamreza Kord-Zanganeh, about 230 state-run companies were slated to be privatised by end of the Iranian year (March 2009). The shares of some 177 state companies were offered on the Tehran Stock Exchange in the previous Iranian year (ending March 2008).

Privatisation Of TCI

In addition to allowing the entry of private sector service providers to Iran's telecoms market, the state of Iran has set out plans to privatise state-owned fixed-line monopoly provider **TCI**. Under Iran's Fourth Five-Year Economic Development Plan (2005-2010), the Iranian Privatization Organization, which is affiliated with the Ministry of Economic Affairs and Finance, was charged with the responsibility for setting prices, ceding shares to the general public and listing shares on the stock market.

Although TCI was wholly owned by the government, in March 2007, TCI and its provincial affiliated companies were earmarked for privatisation. According to TCI's privatisation plan, the company's **Telecom Infrastructure Company** was to be detached, and it would continue its activities as a part of the MICT. Meanwhile, TCI and its 30-odd regional subsidiaries were scheduled to be privatised by September 2007. Although TCI had commenced its privatisation plans, the privatisation process was nowhere near completion by the end of 2007. In September 2007, Iran's deputy minister of communications and information technology, Vafa Ghaffarian, announced that 51% of TCI would be privatised before the end of the Iranian calendar year on March 19 2008. Although this target was not met, it was understood that the government remained committed to TCI's eventual sale.

According to reports at the time, the government would retain a 20% holding in the firm, and it is understood that there would be no restrictions on ownership for domestic or foreign investors. Although the Iranian government announced in November 2008 that the part-privatisation of TCI would take place before the end of the Iranian calendar year on March 20 2009, in January 2009 it was reported that Iran's government had once again delayed the planned sale. TCI's managing director, Saber Feizi, was reported as saying that the documents for the tender would not be available to interested parties until mid-March 2009 at the earliest.

In September 2009, it was reported that a 50% plus one share stake had been purchased in TCI by local consortium, Etemad Mobin. By November there was an announcement that the Mobin consortium had acquired a 50% plus one share stake in the operator offered over the Tehran Stock Exchange for IRR77.985trn. A few weeks after the September announcement, it was announced that Iran's General Inspections Organisation (GIO) had begun an investigation into the relationship between Etemad Mobin and the Iranian Revolutionary Guard.

Competition

In contrast to the monopoly in the fixed-line sector, mobile phone services, based on GSM standard, are offered by TCI and by four private sector companies: Irancell, Taliya, MTCE and TKC. Further, Iran has a large number of privately owned ISPs operating within the country; this is in spite of the high levels of government control over the sector. Iran is also one of the few countries in the Middle East in which development of VoIP has been legalised.

Regulation

The telecoms industry in Iran is entirely government owned and is regulated by the Ministry of Communications and Information Technology (MICT, formerly the Ministry of Post, Telegraph and Telephones). The MICT is responsible for all aspects of telecoms sector regulation and for the adjudication of disputes that arise among service providers. Despite long-term plans to establish an independent regulatory body, there appears to have been little progress towards this accomplishment.

Although Iran's telecoms market has been partially liberalised and opened to competition in the mobile, data and internet sectors, the state retains high levels of control over online content and telecoms service usage. Internet usage in particular is subject to strict controls; in October 2006, it was reported that Iran's government had opened a new front in its drive to stifle domestic political dissent and combat the influence of Western culture by banning high-speed internet links. The country's numerous ISPs were ordered to restrict online speeds to 128Kbps and forbidden from offering fast broadband packages. The move by Iran's authorities will make it more difficult for internet users to download foreign music, films and television programmes, which the authorities blame for undermining Islamic culture among the younger generation. It will also impede efforts by political opposition groups to organise by uploading

information on to the net. In November 2006, Mahmoud Khosravi, the head of Iran's Radio Communications and Regulations Organization (RCRO), was reported as saying that universities and other academic centres, research institutes, business companies, industrial townships, public libraries and culture houses were exempt from the 128Kbps restriction on the condition that they install the required content filters.

In September 2007, it was reported that Iran would begin regulating and filtering multimedia messaging services (MMS) in order to prevent 'immoral' video and audio messages being sent through mobile phones. Iran's Supreme Council of the Cultural Revolution is understood to have instructed the MICT to acquire equipment that will enable it to filter MMS.

Licensing And Spectrum

The usage and allocation of communications spectrum in Iran is supervised by the country's Radio Communications Administration (Radtel), which is part of the MICT. The MICT has licensed five operators to provide mobile telephony services in the GSM standard. Two of those operators – MCI, which is the mobile unit of fixed-line incumbent TCI, and Irancell – offer services using the GSM 900 and GSM 1800 spectrum bands. The other three mobile operators – Taliya, MTCE and Kish Free Zone Organization (KFZO) – offer services using GSM 900 spectrum only. In July 2007, the Iranian government revealed plans to offer another national cellular licence sometime in 2008. In February 2008, a tender was announced for the supply and installation of a wireless local loop system, based on the GSM standard, for Bam and Baravat as part of the Bam earthquake emergency reconstruction project.

Meanwhile, in January 2007, it was reported that **Laser Company** had become the first privately owned operator to launch a WiMAX wireless network in Iran, based on 802.16 standards. At launch, the WiMAX network provided wireless internet access to the capital Tehran. Laser Company is understood to be in the process of extending its WiMAX network services to other Iranian provincial capitals. Other companies that have been licensed to provide WiMAX internet access services include **Pars Online** and **Datak Telecom**.

Iran's first wireless internet project, based on 802.11 (WLAN) standards, was reportedly implemented in March 2006. The country's first Wi-Fi project ensured the provision of internet services to large areas of the islands of Qeshm, Hengam, Lark and Hormuz.

Industry Developments

Lack of Internet Freedom

Ali Aghamohammadi, the Iranian deputy vice president of economic affairs has announced that the country will be launching a new 'halal' internet that will aim to rid the web of Western influences. 'Iran will soon create an internet that conforms to Islamic principles,' he said, 'to improve its communication and trade links with the world.' According to Aghamohammadi this will mean ditching the World Wide Web in favour of a parallel network that will help promote the use of the nation's Farsi language, telling IRNA 'The aim of this network is to increase Iran and the Farsi language's presence in what has become the most important source of international communication.' He further added 'Creating Halal Internet network will be a turning point in the sphere of e-government, e-commerce and e-banking, and all e-services within the country will be rendered through the network.'

According to a new 410-page report examining freedom on the internet and published by Freedom House, an American NGO, the study found that Iran was the least free country, as it has high levels of oppressive policies, such as intimidating and even in some cases jailing people for what they write online.

Meanwhile, Agamohammadi said the Iranian net consortium will work in the sphere of fibre-optic network, and internet speed will increase with the beginning of its activity. 'The consortium initially will render services through fibre-optic network to 10mn users,' he said.

Government has Taken Measures against Threat of Cyber Terrorism

In July 2011 Iranian ICT Minister, Reza Taqipour, reportedly said the government had taken the necessary technical measures to thwart the 'internet in a suitcase' plan. As reported by Telecompaper, Taqipour accused the US and its allies of cyber terrorism by launching a scheme to establish independent mobile phone networks in foreign countries. Telecompaper referred to a New York Times report from June 12, which suggested the US administration was utilising 'shadow' internet and mobile phone systems which dissidents could use to undermine governments that seek to censor or shut down telecommunications networks. The US State Department reportedly provided US$2mn in funding for the scheme, which would allow a suitcase to be taken across a border so that wireless communications could rapidly be established over a wide area with a link to the global internet.

Competitive Landscape

Key Players

Table – Key Players: Iranian Telecoms Market		

Company Name	Ownership	Market
Telecommunications Company of Iran (TCI)	Government (100%)	Fixed-line (local, domestic long distance, international), mobile, data operations
Taliya	Rafsanjani Industrial Complex (RIC)	Mobile (GSM900)
Irancell	MTN (49%), Iran Electronic Development Company (51%)	Mobile (GSM900/1800)
Mobile Telecommunications Company of Esfahan (MTCE)	Telecommunication Company of Esfahan Province (51%), Axiata (49%)	Mobile (GSM900)
Telecommunication Kish Co. (TKC)	LibanCell (100%)	Mobile (GSM900), Internet (dial-up, WLAN)
Pars Online	Private (100%)	Internet (dial-up, ADSL, WiMAX)
Datak Telecom	Private (100%)	Internet (dial-up, ADSL, Wi-Fi, direct fibre), Residential VoIP

Source: BMI

Company Monitor

Huawei Technologies

Although new contracts have been thin on the ground in recent months, China-based **Huawei Technologies** has a strong presence in the Middle East and North Africa (MENA) telecommunications equipment markets through a number of long-term strategic relationships with the region's principal incumbent network operators. It also works with a large number of tier-2 and tier-3 network operators and service providers in the areas of mobile networks, wireless networking, fixed-broadband infrastructure and IT/professional services, through third-party distributors and through its growing footprint of in-country offices and knowledge centres.

Huawei's business activities in the MENA region are understood to have made a significant contribution to the group's overall growth in sales revenue and profitability in 2010. Although Huawei does not provide a breakdown of its non-China revenues - including the Middle East and Africa - its announcements of key contracts with key operators during 2010 suggest that it was on track to see regional sales account for 13-14% of global turnover, as had been the case in each of the two preceding financial years. This would equate to approximately US$4bn in 2010.

BMI is uncertain how the company is faring in markets negatively impacted by the Arab Spring, where social uprisings have unseated certain governments and new ministers and officials have yet to establish telecoms development policies and network equipment procurement agendas of their own. Some of the affected markets, aware of the role the internet and mobile networks played in the downfall of regimes, will be wary of introducing next generation technologies and may be warier still of working with relatively secretive foreign firms - such as Huawei Technologies - despite the allure of deep, long-term vendor financing and associated economic improvements.

Nevertheless, key stable markets such as the United Arab Emirates, Qatar and Saudi Arabia continue to offer good long-term business prospects for Huawei in most product areas, ranging from complete mobile networks to advanced optical transmission systems, as well as more consumer-orientated products such as handsets and wireless modems.

Key Financial Data

In 2010, Huawei reported global sales of CNY185.2bn (US$28.6bn), up by 24.2% from CNY149.1bn (US$23.1bn) in 2009. Although slower than the five-year compound annual growth rate (CAGR) of 29% (albeit not by much), the company's performance in 2010 was much stronger than most of its competitors including **Nokia Siemens Networks** (NSN), **Alcatel-Lucent** and **Ericsson**. These three companies have long histories in the MENA region but they can no longer rely on historical political and economic ties as newcomers such as Huawei and **ZTE** compete more aggressively with respect to pricing and financing as well as diversity of product solutions. NSN and Ericsson have found solace in building their network

support and managed services business in the Middle East and Africa region, but Huawei is also gaining traction in this field, winning 47 major managed services contracts worldwide in 2010.

Sales revenues from overseas markets totalled CNY120.435bn (US$18.6bn) in 2010, up by 33.8% y-o-y. The company noted that it achieved rapid growth in North America and the Commonwealth of Independent States (CIS) as it secured new customers and demand for equipment returned to buoyancy after the economic slowdown of 2008/09. Solid growth momentum was also seen in Asia, despite a slowdown in the Indian market, while 'steady' growth was seen in Africa where the company continued to enjoy market-leading positions in personal/carrier solutions and fixed access products (North Africa) and networking equipment (West Africa).

Huawei Technologies - Key Financial Data (US$mn)					
	2006	**2007**	**2008**	**2009**	**2010**
Revenue	10,262	14,504	19,363	23,051	28,636
Operating Profit	749	1,410	2,505	3,256	4,527
Operating Margin (%)	7.3	9.7	12.9	14.1	15.8
Net Profit	618	1,169	1,214	2,826	3,674
Cash	1,275	2,138	3,250	4,521	5,886
Total Assets	9,046	12,535	18,284	21,594	24,870

Source: Huawei Technologies

Huawei derives the majority of its revenues from sales of telecoms network infrastructure products. Revenues totalled CNY122.9bn in 2010, up by 23.0% y-o-y and representing 66.4% of total revenues (67.0% in 2009). The company said that its radio access business expanded steadily in 2010, enabling it to consolidate its market-leading position with a global market share of 20%. The company unveiled its 'Single' strategy, helping operators to realise their network development objectives from the perspective of end-to-end operation and maintenance (O&M), and maximise the value of their core assets. Huawei's 'SingleRAN' solution integrates various technical modes into a single package.

The company is keen to exploit operators' desires to migrate to next generation mobile broadband platforms, particularly those based on the LTE technology standard. During 2010, Huawei launched its SingleRAN LTE solution and developed an LTE-Advanced product suite for true 4G migration.

The 'Single' concept extends into the fixed broadband sector, too, implementing the world's first commercial bearer solution supporting video-acceleration for UAE-based **Etisalat** in 2010. The company also launched new prototypes in xDSL and optical transmission networks and commercialised the

'SingleMetro' unified multi-service platform. Concurrently, Huawei accelerated the industrialisation of new technologies by completing the world's first 10G gigabit passive optical network (GPON) full-service commercial test, as well as the first end-to-end 100G pilot office and 10T cluster router commercial office. Etisalat and Huawei tested the 10G GPON in the second half of 2010.

Huawei's Global Services business generated revenues of CNY31.5bn (US$4.9bn), a y-o-y increase of 28.6%. In the managed services field, Huawei successfully conducted network management of 75 customer networks (160,000 sites), provided services in developed markets such as Spain, Germany and Hong Kong and retained the leading position in regions such as the Middle East and North Africa.

Huawei says it has dedicated itself to being the global services leader for all-IP networks by driving the successful business transformation of its customers and by increasing their profits through the improvement of end-user experience.

In 2010, Huawei's Devices business shipped more than 120mn units and realised sales of CNY30.7bn (US$4.7bn), an increase of 24.9% y-o-y. Growth in high-value mature markets such as the US and Japan was in excess of 100%. Smartphones were primarily targeted at mature markets and although Huawei also manufactures and sells many more low-cost feature phones and basic handsets that are aimed at emerging markets, revenues are relatively low. Huawei also manufactures and sells mobile broadband terminals - mainly plug-in USB devices for laptops - based on GSM, CDMA and UMTS technology, and **BMI** believes the Middle East's more mature 2.75G/3G markets provide strong expansion opportunities for Huawei.

Mobile Broadband Key To Regional Growth

Huawei has been heavily involved in expanding and enhancing 2G and 3G mobile networks in the Middle East and North Africa and has also won contracts to build all-new 3G networks for new entrants while its newly launched LTE product portfolio has also seen it secure orders from key regional players such as **Saudi Telecommunication Company** (STC) and Etisalat, for example.

In January 2009, Huawei completed the construction of a GSM/UMTS mobile network for Kuwait's third largest cellco **Viva**. In addition to building Viva's mobile network, Huawei was tapped to manage the network of the STC-owned operator for a five-year period. In August 2009, Huawei was selected as the sole supplier of a GSM/UMTS network to Moroccan operator **Wana**. Just two months later, the company was selected by incumbent **Maroc Telecom** to replace its existing mobile packet core with an Intelligent Packet Network (IPN). The upgrade allowed Maroc Telecom to increase the capacity of its network for 3G users and expand its ability to manage increased traffic volumes as well as offering new types of mobile broadband services.

In April 2010, Huawei was contracted by STC and **Mobily** to deploy pre-commercial 4G LTE networks for the companies in Saudi Arabia. 4G frequencies have yet to be made available in Saudi Arabia, but the operators and Huawei expect to be in a prime position for when services are eventually commercialised. A similar order for a pre-commercial LTE network was placed with Huawei by Etisalat of the UAE in February 2011.

LTE is not the only '4G' technology standard, however, and Huawei also provides equipment based on the rival standard WiMAX. In February 2010, the company helped Iraqi operator **7Netlayers Telecom** to launch the country's first WiMAX-based mobile broadband network, in the Kurdistan-Erbil region where approximately 6mn potential subscribers are located.

Fibre Supplements Mobile As A Broadband Medium
Wireless is not the sole medium for broadband services, though in a number of markets - particularly in North Africa - it is generally preferred over fixed-line access due to the poor condition of fixed-line infrastructure in these markets. Huawei has been contracted to supply various terrestrial and submarine cable systems as well as more localised infrastructure based on fibre-optic technology.

In 2009, **Huawei Marine Systems** secured contracts from **Tunisie Telecom** and **Libya Post Telecommunications and Information Company** (LPTIC) - state-owned incumbent operators in their respective markets - to deploy submarine cable systems. The Tunisie Telecom deal was for a new 170km trans-Mediterranean system dubbed HANNIBAL, connecting Tunisia and Italy. The Libyan cable system links various coastal towns within that country.

Although the provision of FTTH networks has become an important source of new growth for Huawei, this part of its business remains relatively underdeveloped in the MENA region. However, the company has won a creditable number of high-profile contracts in the more developed markets and is considered to be a leader in the field within the region. It has been deploying GPON FTTH networks for Etisalat in the UAE, and completed the first phase of deployment in Abu Dhabi towards the end of 2010.

FTTH networks have also been deployed for **Libya Telecom and Technology** (LTT) in 2009 and for **Qtel** in Qatar in 2010.

Huawei - Recent Contract Wins/Developments In Middle East & North Africa

Date	Country	Customer	Contract Details
July 2011	Regional	Etisalat	Etisalat signed a MoU with the Export-Import Bank of China and Huawei to collaborate on the rollout of new technologies and services across the Middle East.
Feb-11	UAE	Etisalat	Huawei and Etisalat signed a commercial LTE contract to commence deployment of the region's widest LTE network in the UAE
Nov-10	UAE	Etisalat	Huawei and Etisalat completed a full-service test of 10G gigabit passive optical network (GPON) technology over Etisalat's FTTx network
Aug-10	Qatar	Qtel	Qtel began to roll out FTTH technology supplied by Huawei as part of a three-year plan to connect homes with high-speed fibre accesses. Pilot projects had begun in February 2010
Apr-10	Saudi Arabia	Saudi Telecom Company	Deployment of a pre-commercial LTE 4G network
Feb-10	Regional	Qtel	Conclusion of a frame purchasing agreement (FPA) to support Qtel's long-term development strategy across its international markets
Feb-10	Iraq	7Netlayers Telecom	US$10mn project to deploy a WiMAX network in Kurdistan-Erbil
Jan-10	Libya	Libya Post Telecommunication & Information Company	Turnkey submarine optical fibre submarine cable connecting the coastal cities of Tobruk and Emasaed (177km)

Source: Huawei, BMI

Operator Profiles

Telecommunications Company Of Iran (TCI)

Strengths	▪ Remains the only fixed-line operator in Iran
	▪ Continues to increase reach of fixed-line operations to the country's rural areas
	▪ Continuing to record steady growth within mobile market
Weaknesses	▪ Poor growth within its internet sectors, especially broadband, further hindered by governmental control on data access
	▪ Delays to privatisation may have limited the scope of expansion and introduction of new services. New ownership under investigation, potentially distracting the company from releasing new services
	▪ Growing number of ISPs competing for market share in internet sector
Opportunities	▪ The Iranian mobile market continues to be characterised by relatively low penetration rates, providing plenty of potential for mobile unit MCI
	▪ Sale of TCI to a strategic investor is expected to bring valuable source of investment capital
	▪ Higher import tax could provide fledgling domestic handset manufacturers with opportunity to grow
Threats	▪ Award of country's second national GSM licence to MTN Irancell coupled with Taliya's growth into a national operator has resulted in loss of mobile market share
	▪ Iran is awaiting the commercial launch of a third national mobile network; once operational, the new operator is expected to become a major source of competition for the established service providers
	▪ Possible liberalisation of fixed-line sector following TCI's part privatisation
	▪ Unstable political and security environment could hinder investment in the sector from equipment manufacturers and content providers

Company Overview Telecommunications Company of Iran (TCI) was formed in 1972 out of its predecessor, the Telephone Company of Iran, and the operator continues to be wholly government owned. After a period of restructuring during July 2005, TCI announced that it had reformed into a parent company overseeing 33 subsidiaries including data communications, mobile communications and backbone communications.

In early 2007, the Iranian Privatization Organization announced that a majority (51%) stake in TCI was due to be sold by the end of September 2007. However, by the end of the year, no progress had been made.

In September 2009, it was reported that local consortium Etemad Mobin paid more than US$7.8bn to secure a 50% plus one share stake in TCI. Etemad-e-Mobin comprises three companies, two of which are reportedly controlled by the Iranian Revolutionary Guard. Shares

were exchanged through the Tehran Stock Exchange in November 2009.

A few weeks after the announcement, it was reported that Iran's General Inspections Organisation (GIO) had launched a probe into the connections between Etemad-e-Mobin and the Iranian Revolutionary Guard (see Regulatory Developments).

Strategy

As a state-owned operator, TCI's strategy is strongly influenced by the priorities of Iran's governing authorities. Central to the government's telecommunications strategy has been the expansion of the country's national communications infrastructure. Priority areas include the development of the national fibre-optic network and the development of rural communications infrastructures. Within the field of mobile communications, TCI has pursued the deployment of new technologies, such as GRPS, as well as a range of new data-based value-added services.

Recent Financial Performance

At the time of writing, TCI had still to publish latest results for 2009 and 2010. The most recent financial results for the operator relate to the year ending March 2008, when TCI reported operating revenues of IRR33.2mn (EUR2.7bn or US$3.7bn). Net income for the period was IRR8.7mn (EUR707.7mn). TCI has not provided a breakdown of its revenues so it is unclear what contribution came from mobile services. Earlier TCI had forecast that its mobile unit, MCI, would generate revenues of about US$2bn, due to rapid expansion of the mobile market and strong economic growth in the country.

Fixed-Line Network

TCI's fixed telecommunications network comprised a total of 19.571mn telephone lines at the end of 2005, up by 10% y-o-y from 17.799mn lines in 2004. During 2006, TCI reported continuing investment into its local and long-distance infrastructure, and by the end of the year, the operator had increased its fixed-line subscriber base by 15.6% y-o-y to 22.627mn. By the end of 2007, the number of TCI-operated fixed lines had risen again, although this time by a more sedate 4.2% y-o-y to 23.585mn. Then, in 2008, growth in the number of fixed lines fell to 3.9%. By the end of the year, there were 24.509mn fixed lines in operation, according to TCI.

The slower growth rate in 2007 and 2008 suggests an overall slowdown in demand for fixed lines, in the wake of trends such as increased mobile penetration. In the first nine months of 2009, the number of fixed lines at TCI increased by a further 2% to reach 24.988mn.

In a bid to find new avenues for growth, TCI has focused on increasing its rural network coverage. At the end of 2005, a total of 46,764 villages were connected to TCI's fixed-line infrastructure. The MICT claimed that this figure had risen to 50,173 by December 2006, and 52,522 by December 2007. In December 2008, the figure stood at 53,845. According to the ministry, at the time of the Islamic Revolution in 1978, just 312 of Iran's 100,000 villages had telecoms services.

As well as purchasing capacity on four international submarine cables (FOG, FLAG, SEA-Me-We and ITUR), TCI has also issued a tender for SDH equipment on all main national routes. By the end of 2008, TCI's national backbone comprised 121,000km of fibre-optic cable, of which 44,000km had been installed during the course of the year. A further 6,000km were installed in the first nine months of 2009, raising the total amount of optical figure to 127,000km. The TAE (Asia-Europe) cable system was just one of the projects completed during 2007, connecting Iran to Asia and Europe through a 2,200km optical fibre cable. Other accomplishments in 2007 included the construction of a 150km fibre-optic cable connecting Iran and Afghanistan.

Broadband Network   TCI began offering ADSL-based broadband internet access services early in 2004, but deployment has so far been confined to the larger cities and business centres. By the end of 2005, a total of 514 cities had been covered with a total of 14,270 leased access ports. By the end of September 2009, the number of cities covered had risen to 1,223. There were a total of 60,718 national data access ports at the end of September 2009, supporting a data transmission capacity of 26,728Mbps.

TCI stated that there were over 7.2mn internet users in Iran at the end of December 2005, an increase of 600,000 users since 2004. The number of internet users had risen to 12.8mn by the end of 2007, and 23.0mn by September 2009.

Iran's internet market suffered from poor connectivity during 2006, which led to loss of service occurring on average once a month. This was blamed by some in the industry on a failure to provide back-up capacity, which supports network traffic when the main fibre network fails. While technologically advanced countries have several optical fibre networks around which traffic is directed, in Iran's case, incumbent operator TCI is left to compensate for the failings across other ISP networks. Further, in October 2006, the Ministry of Telecommunications announced that high-speed internet access would no longer be made available to residential users, in an attempt to curb Western media influences, which led to the banning of websites such as the BBC's Persian-language site.

Mobile Network   The latest figures to be published by TCI on the size and extent of MCI's mobile network relate to the end of September 2009. As of September 2009, network coverage expanded to incorporate 1,076 cities, up from 1,016 at the end of 2007. At the end of 2008, TCI had a total mobile subscriber base of 28.6mn users, with net additions of 7.3mn over the year (or annual growth of 34%). By the end of September 2009, the operator's customer base had risen to 32.293mn at. Iran's MICT has suggested that about 35% of MCI's mobile customers used prepaid cards at the end of September 2008 (latest data available), with the remainder signed up to postpaid subscriptions.

In April 2008, MCI's chairman, Vahid Sadoughi, reportedly announced that the company planned to increase the capacity of its intelligent network (IN) in order to double its prepaid SIM card network capacity. Sadoughi is reported as saying that, once the operator's network capacity had been expanded, MCI's prepaid customer base was expected to increase to 10mn by the end of April. Lack of network capacity was reported to have caused a delay in the delivery of prepaid SIM cards and resulted in widespread disapproval among 2.558mn waiting applicants.

According to a May 2011 report by the Fars News Agency, which cites comments from MCI's Managing Director Vahid Sadouqi 2011, MCI provides services to all of Iran's cities and 57% of the country's villages. The operator's network also covers 97% of all main roads in the country and 68% of secondary roads. It also provides rural roaming services in 35,000 villages in 20 provinces.

Financial Data
- Revenues (YE March 2008): IRR33.2mn
- Net Income (YE March 2008): IRR8.7mn

Operational Indicators
- Fixed Lines (December 2007): 23.585mn
- Fixed Lines (December 2008): 24.509mn
- Fixed Lines (September 2009): 24.988mn
- Mobile Subscribers (December 2007): 21.3mn
- Mobile Subscribers (December 2008): 28.602mn
- Mobile Subscribers (September 2009): 31.875mn
- Internet Users (December 2007): 12.6mn
- Internet Users (December 2008): 21mn
- Internet Users (September 2009): 23mn

Company Address
- Telecommunications Company of Iran
  Shariati Avenue, Tehran, Iran
- Tel: +98 (21) 860 1225
- Web: www.irantelecom.ir

MTN Irancell

Strengths	▪ Iran's second largest mobile operator, with a market share of 44% and growing, as of the end of 2010
	▪ Blended ARPU has been stable in recent quarters
	▪ Has a major strategic backer in the form of South Africa's MTN Group
	▪ First to market with GPRS and MMS services
Weaknesses	▪ Subscriber base is understood to be highly dependent on prepaid customers
	▪ MMS business faces government censoring and filtering
	▪ Lacks presence in the wireline sector that would allow it to offer converged services in the future
	▪ US embargo puts limits on potential network equipment partners
Opportunities	▪ Iran's relatively low mobile penetration rate means that customer growth should remain strong over the next few years
	▪ Although in the early stages, the market for mobile value-added and data services is expected to see strong growth; the youthful orientation of Iran's population should help to underpin future growth
	▪ Continuing network roll-out programme is expected to have a positive impact on future growth
Threats	▪ Iran is in the process of awarding the country's third national mobile network licence; once operational, the new operator is expected to become a major source of competition for the established operators
	▪ The privatisation of TCI could raise the level of competition for MTN Irancell
	▪ Underdeveloped legal and judicial environment could pose challenges

Company Overview	MTN Irancell is Iran's second largest mobile operator. Since launching services at the end of 2006, the operator has expanded rapidly and now controls 44% of the mobile subscriber market. In November 2003, the Ministry of Communications (now the MICT) issued a notice of its intention to issue a second GSM licence. In February 2004, Turkish operator Turkcell announced that it won the tender, at a cost of US$385mn, over its closest rival, South Africa's MTN Group. The Turkcell network was expected to launch within a year of licence issue, but by September 2004 the licence had yet to be formally awarded. The ongoing licence issue culminated in the Iranian authorities limiting foreign ownership in Irancell to 49%. Talks between Turkcell and the government eventually fell apart, leading the MICT to award the licence to MTN on November 21 2005. The remaining 51% stake is held by the Iran Electronic Development Company (IEDC). Irancell is currently managed through a shareholder agreement setting out operational management including key positions nominated by respective shareholders IEDC (chairman and managing director) and MTN (chief operating officer and chief financial officer).

Strategy

MTN Irancell aims to drive mobile penetration and market share through the deployment of innovative products and services. It continues to emphasise the development of segmented prepaid and postpaid packages. The operator also aims to improve the level of customer service that is currently offered; the introduction of online registration and activation within 15 minutes was designed to further this goal. A central part of MTN Irancell's strategy is the implementation of a network that supports 3G services and, over the next five years, a network that covers more than 1,000 cities and comprises almost 6,000 BTSs. The operator aims to provide network coverage to 85.0% of the population by October 2020.

Licence Conditions

Under MTN Group's licensing terms, the operator has a 15-year fixed term, followed by an option to renew its licence for an additional five years, which is allowed twice. Fees incurred by the operator, aside from the EUR300mn licence fee already paid to the Iranian authorities, include an annual fee set at 28.1% of the revenue share, based on gross revenues minus handset sales and net interconnection, with connection fees limited to US$150. Moreover, the operator must also pay a universal service fee of 3% of revenues. Other fees, such as numbering, frequency and regulation fees, are applicable, but altogether will not exceed 5% of revenue. Meanwhile, it was also agreed that 21% of Irancell would be listed.

Financial Performance

The latest financial data for MTN Irancell relates to the year ended December 2010. However, the MTN has published operational data for the first three months of 2011. This shows that MTN had 31.391mn mobile subscribers at the end of March 2011, up by 5.5% from 29.743mn mobile subscribers at the end of 2010 and by 23.7% from 25.39mn one year earlier.

In 2010, full-year revenues reached ZAR9.2bn, representing a y-o-y increase of 21.1% from ZAR7.6bn resulting from strong subscriber growth and stable ARPUs. There were a total of 29.743mn mobile subscribers, rising by 27.9% y-o-y, with an ARPU of US$8, remaining flat over the same period. There were fewer net additions in the second half of 2010 at 2.776mn as compared to the first half at 3.707mn net additions. The increase in subscribers' figures related to segmented tariff plans and enhanced seasonal promotions, as well as efficient and improved brand awareness campaigns. ARPUs, meanwhile, remained stable as a result of increased usage from improved capacity and coverage in key areas. Tariffs also remained stable over the year. Data revenues reached ZAR1.633bn, with SMS revenues at ZAR178bn. Data revenues including SMS accounted for 20% of total revenues, of which 89% was SMS. Data revenues rose as a result of an increase in GPRS service take-up. There were a total of 10.6mn GPRS users.

During 2010, MTN Irancell deployed 1,287 BTS, down from 2,043 BTS in the previous year of the same period. This brought total network coverage to 77% of the population and 20% geographic coverage. There was improved network quality and capacity in Tehran although the operator commented that site rentals remain challenging in Esfahan.

MTN said that it aims to have an Iranian subscriber base of some 31mn users by the end of 2015. MTN's chief technology officer, Karel Pienaar, said the operator expects Iran to overtake Nigeria and to challenge South Africa as its largest market. To illustrate the

expectations placed on Iran, Nigeria accounted for 26.5% of MTN's total international subscriber base of 68.213mn at the end of September 2009; this compares with South Africa's 15.1% and Iran's 19.1%. However, MTN also previously voiced some concerns about its entry into Iran. In particular, the operator has expressed concerns about the threat of further sanctions from the international community with regard to Iran's nuclear programme. These could lead to restrictions on the importation of network equipment and software, while also reducing the appetite for funding by international financial markets.

Network Development	Irancell launched its network in October 2006, with sales and network coverage initially limited to the cities of Tehran, Mashhad and Tabriz. Further coverage was provided by means of interconnection agreements with Iran's other mobile operators. By February 2007, Irancell was offering network coverage in Tehran, Tabriz, Mash'had, Karaj, Sari, Oroumiyeh, Maraqeh and Qom, with a further two cities to be added: Meshkinshahr and Kermanshah. At the time, reports by Fars news agency suggested that the network was incomplete in parts of Tehran and Karaj – although Irancell stated that it had managed to raise coverage in the capital to 90%. The slow roll-out of its network in the early stages was attributed to the lack of cooperation from municipalities and objections from some of the population to the installation of base stations.

The operator has shared network contracts between three vendors: Nokia, Ericsson and Huawei Technologies. Nokia provided the operator with a core and BSS network, while Huawei has also supplied a BSS network system. By the end of 2007, Irancell was boasting a network presence in 365 Iranian cities and 30 provincial capitals; this enabled Irancell to reach 53% of the population and ensured that it met its 50% coverage target, which was supposed to be achieved by the end of the first year of operations. According to the terms of its licence, Irancell has to increase its network coverage to up to 56%, 61% and 85% during the second, third and finally 15th year of operations. By the end of 2007, 3,356km of the roads in Iran had been put under Irancell network coverage.

In February 2007, Irancell launched Iran's first GPRS services, available to prepaid and postpaid subscribers. At the time of launch, Irancell announced that the service would be free for all subscribers until the end of March 2007.

In November 2010, MTN Irancell launched a mobile banking service which allows subscribers to purchase airtime and pay utility bills. MTN plans to introduce a number of other services, including transferring money, account balance inquiries and receiving bills.

In January 2011, MTN introduced a new location-based service which can be used in several major cities, including Tehran, Karaj, Tabriz, Esfahan, Shiraz and Mashhad. The new service can be used for identifying the geographical location of a friend and informing them of a subscriber's whereabouts. The friends' location is notified to the subscriber through SMS or MMS.

Financial Data	▪ Revenue (2007): US$394.5mn
	▪ Revenue (2008): ZAR4.935bn
	▪ Revenue (2009): ZAR7.625bn

- Revenues (H110): ZAR4.468bn

- Revenues (2010): ZAR9.2bn

- Revenues (2010): IRR12.884bn

- EBITDA loss (2007): US$50.2mn

- EBITDA (2008): ZAR1.492bn

- EBITDA (2009): ZAR2.664bn

- EBITDA (H110): ZAR1.839bn

- EBITDA (2010): IRR5.304bn

- Net Loss (2007): US$189.8mn

- Capital expenditure (2006): ZAR1.578bn

- Capital expenditure (2007): ZAR1.559bn

- Capital expenditure (2008): ZAR2.743bn

- Capital expenditure (2009): ZAR2.282bn

- Capital expenditure (H110): ZAR896mn

- Capital expenditure (2010): ZAR1.661bn

Operational Indicators	
	- Mobile Subscribers (December 2007): 6.006mn
	- Mobile Subscribers (March 2008): 9.025mn
	- Mobile Subscribers (June 2008): 11.593mn
	- Mobile Subscribers (September 2008): 13.139mn
	- Mobile Subscribers (December 2008): 16.039mn
	- Mobile Subscribers (March 2009): 18.252mn
	- Mobile Subscribers (June 2009): 19.187mn
	- Mobile Subscribers (September 2009): 20.702mn
	- Mobile Subscribers (December 2009): 23.260mn
	- Mobile Subscribers (March 2010): 25.386mn
	- Mobile Subscribers (June 2010): 26.967mn
	- Mobile Subscribers (September 2010): 28.486mn
	- Mobile Subscribers (December 2010): 29.743mn
	- Mobile Subscribers (March 2011): 31.391mn

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Regional Telecommunications Penetration Overview

Fixed Line

Consideromg its large territorial size and lack of competition, Iran has a surprisingly high level of fixed-line penetration. Its fixed-line network is still growing, with still partly government-owned **TCI** continuing to invest in increasing rural connectivity. Although official data is published infrequently, the latest figures suggest Iran had 26.84mn fixed telephone connections at end-2010. This gives it the highest fixed-line penetration rate in the Middle East and North Africa region.

Table: Regional Fixed-Line Penetration Overview

Country	Fixed-line Penetration 2010 (%)	Regional Rank 2010
Iran	**36.3**	**1**
Israel	36.2	2
Bahrain	31.1	3
United Arab Emirates	30.9	4
Qatar	20.5	5
Kuwait	18.2	6
Saudi Arabia	16.4	7
Libya	12.7	8
Tunisia	12.5	9
Morocco	11.7	10
Egypt	11.6	11
Oman	9.7	12
Jordan	8.3	13
Iraq	5.2	14
Algeria	0.9	15
Average	17.4	

e = estimate. Source: BMI

Mobile

Compared with other markets in the Middle East and North Africa region, Iran has a large potential market for mobile services. However, a mobile penetration rate of more than 91% at the end of 2010 means Iran is positioned in the lower half of our regional penetration table. This relatively low penetration rate, which is understood to be inflated by the presence of inactive prepaid users, and makes Iran's mobile market attractive to potential investors.

However, an unpredictable and opaque regulatory regime has so far, acted to deter investment. Despite the presence of some smaller operators, the mobile market effectively remains a duopoly between national incumbent operator **TCI** and South African cellco **MTN**. National competition did not arrive in Iran's mobile market until 2004, when the country issued a second national GSM licence to South Africa's **MTN**. The latter subsequently launched services in Iran as **Irancell**.

Prior to the launch of services by MTN, some limited competition was offered by a couple of regional operators. Two GSM 900 operators – **TKC** and **MTCE** – began offering services in 1996 and 2001 respectively. However, the services of both operators were confined to limited geographical areas, with TKC operating on the island of Kish and MTCE operating in the city of Esfahan. MTCE's network is managed by **Celcom Malaysia**, the mobile unit of **Telekom Malaysia**. Meanwhile, TKC is managed by former Lebanese mobile operator **LibanCell** on behalf of the **Kish Free Zone Organization**.

A third regional operator, **Taliya**, which launched a GSM 900 network in May 2005 within the greater Tehran area. Although Taliya has since begun offering its services nationally, its network is still far from being national and its market share is still extremely small. Although Taliya had been jointly managed by Luxembourg-based **Millicom** and **RIC**, in late October 2006, Millicom announced that it was exiting the Iranian market, stating that it was unable to make any progress towards resolving its interconnection issues, which had prevented the company from seeing returns on its investments.

Considering Iran's erratic licensing framework and opaque regulatory environment, there is little prospect of a rapid launch of a new national mobile operator. The launch of a clear 3G licensing strategy anytime soon also looks unlikely.

Table: Regional Mobile Penetration Overview

Country	Mobile penetration 2010e (%)	Regional rank 2010
United Arab Emirates	231.4	1
Bahrain	212.3	2
Saudi Arabia	193.9	3
Qatar	188.7	4
Oman	158.7	5
Kuwait	157.7	6
Libya	154.0	7
Tunisia	139.0	8
Israel	127.2	9
Jordan	113.8	10
Algeria	101.7	11
Iran	**91.4**	**12**
Morocco	86.8	13
Egypt	77.8	14
Iraq	74.9	15
Average	140.7	

e = estimate. Source: BMI

Broadband

In terms of broadband penetration, much of North Africa and the Middle East continues to have penetration rates that are well below 10%. This phenomenon is largely the result of high tariffs for broadband services. Many operators in the region have a near monopoly on the provision of broadband services, with the consequence they are able to dictate prices. Moreover, with many ISPs leasing lines from these incumbent operators, they are in turn also charged high rental prices, which are passed onto the end-user.

Although Iran has a relatively low rate of broadband subscriber penetration – just 1.8% at the end of 2010 – the country has a high rate of internet user penetration – believed to be more than 34% at end-2010. This characteristic of the market reflects the way in which Iranians gain access to the internet, mostly through public facilities such as internet cafes, rather than through private connections. Although the internet sector has a large number of private ISPs, most ISPs have fewer than 5,000 subscribers. The market continues to be dominated by the government-run **DCI**, a unit of incumbent fixed-line group **TCI**.

There is a good deal of appetite for internet access in Iran, with major cities supporting good numbers of internet cafés. If restrictions were removed or lessened, then growth would be more considerable. Interestingly, despite severe controls that are often placed on internet access in Iran, it is far from being at the bottom of our broadband penetration table.

Table: Regional Broadband Penetration Overview

Country	Broadband Penetration 2010e (%)	Regional Rank 2010
Bahrain	27.7	1
Israel	24.6	2
United Arab Emirates	16.6	3
Oman	15.1	4
Saudi Arabia	14.5	5
Qatar	10.3	6
Morocco	5.6	7
Tunisia	4.8	8
Jordan	4.7	9
Kuwait	3.9	10
Iran	**1.8**	**11**
Egypt	1.2	12
Iraq	0.6	13
Libya	0.2	14
Algeria	0.1	15
Average	8.8	

e = estimate. Source: BMI

Country Snapshot: Iran Demographic Data

Section 1: Population

Table: Demographic Indicators, 2005-2030				
	2005	**2010f**	**2020f**	**2030f**
Dependent population, % of total	31.3	30.4	31.0	28.9
Dependent population, total, '000	21,133	21,985	26,185	26,373
Active population, % of total	68.6	69.5	68.9	71
Active population, total, '000	46,336	50,311	58,060	64,778
Youth population*, % of total	26.6	25.8	25.2	20.4
Youth population*, total, '000	17,948	18,658	21,283	18,611
Pensionable population, % of total	4.7	4.6	5.8	8.5
Pensionable population, total, '000	3,185	3,327	4,902	7,762

*f = forecast; * Youth = under 15. Source: UN Population Division*

Table: Rural/Urban Breakdown, 2005-2030				
	2005	**2010f**	**2020f**	**2030f**
Urban population, % of total	68.1	71.2	74.0	77.9
Rural population, % of total	31.9	28.8	26.0	22.1
Urban population, total, '000	47,315	52,891	62,376	70,972
Rural population, total, '000	22,200	21,392	21,868	20,183
Total population, '000	69,515	74,283	84,244	91,155

f = forecast. Source: UN Population Division

Section 2: Education And Healthcare

Table: Education, 2002-2005		
	2002-2003	**2004-2005**
Gross enrolment, primary	103	111
Gross enrolment, secondary	82	81
Gross enrolment, tertiary	22	24
Adult literacy, male, %	na	83.5
Adult literacy, female, %	na	70.4

Gross enrolment is the number of pupils enrolled in a given level of education regardless of age, expressed as a percentage of the population in the theoretical age group for that level of education. na = not available. Source: UNESCO

Table: Vital Statistics, 2005-2030				
	2005	**2010f**	**2020f**	**2030f**
Life expectancy at birth, males (years)	68.8	70.1	71.6	73.4
Life expectancy at birth, females (years)	71.7	73.4	75.3	77.4

Life expectancy estimated at 2005; f = forecast. Source: UNESCO

Section 3: Labour Market And Spending Power

Table: Employment Indicators, 1996-2005

	1996	1997	1998	1999	2000	2005
Economically active population, '000	16,027	na	na	na	na	22,317
– % change y-o-y	na	na	na	na	na	na
– % of total population	25.3	na	na	na	na	32.1
Employment, '000	14,572	na	na	na	na	19,760
– % change y-o-y	na	na	na	na	na	na
– male	12,806	na	na	na	na	15,959
– female	1,765	na	na	na	na	3,801
– female, % of total	12.1	na	na	na	na	19.2
Total employment, % of labour force	90.9	na	na	na	na	88.5
Unemployment, '000	na	na	na	na	na	2,556
– male	na	na	na	na	na	1,780
– female	na	na	na	na	na	776
– unemployment rate, %	na	na	na	na	na	11.5

na = not available. Source: ILO

Table: Consumer Expenditure, 2000-2012 (US$)

	2000	2007	2008e	2009f	2010f	2012f
Consumer expenditure per capita	2,362	2,162	2,658	3,224	3,818	5,202
Poorest 20%, expenditure per capita	602	551	678	822	974	1,327
Richest 20%, expenditure per capita	5,894	5,394	6,631	8,043	9,526	12,979
Richest 10%, expenditure per capita	7,961	7,286	8,957	10,864	12,866	17,531
Middle 60%, expenditure per capita	1,772	1,622	1,993	2,418	2,863	3,902
Purchasing power parity						
Consumer expenditure per capita	2,669	4,948	5,694	na	na	na

Table: Consumer Expenditure, 2000-2012 (US$)						
	2000	**2007**	**2008e**	**2009f**	**2010f**	**2012f**
Poorest 20%, expenditure per capita	681	1,262	1,452	na	na	na
Richest 20%, expenditure per capita	6,660	12,344	14,207	na	na	na
Richest 10%, expenditure per capita	8,996	16,673	19,190	na	na	na
Middle 60%, expenditure per capita	2,002	3,711	4,271	na	na	na

e/f = estimate/forecast; na = not available. Source: World Bank, Country data; BMI calculation

Table: Average Annual Manufacturing Wages, 2000-2012						
	2000	**2006**	**2007e**	**2008e**	**2009f**	**2010f**	**2012f**
IRR	10,410,312	24,342,505	29,240,218	35,708,738	42,178,448	48,975,926	64,895,361
Wage growth,							
% y-o-y	24.1	13.8	20.1	22.1	18.1	16.1	14.1
US$	5,900	2,654	3,170	3,767	4,312	4,871	6,159

e/f = estimate/forecast. Source: ILO, BMI

Glossary Of Terms

Table: Glossary Of Terms					
2G	second generation	GDP	Gross Domestic Product	MHz	megahertz
3G	third generation	GPRS	Global Packet Radio Service	MNP	Mobile Number Portability
ADSL	Asymmetric Digital Subscriber Line	GSM	Global System for Mobile Communications	m-o-m	month-on-month
AMOU	Average Minutes of Use	HDSL	High-bit-rate Digital Subscriber Line	MoU	Memorandum of Understanding
ARPU	Average Revenue per User	HSDPA	High-Speed Downlink Packet Access	MPLS	Multiprotocol Label Switching
ASP	Average Selling Price	HPSA	High-Speed Packet Access	MSC	Mobile Switching Centre
bn	billion	HSUPA	High-Speed Uplink Packet Access	MVNO	Mobile Virtual Network Operator
BTS	Base Transceiver Stations	HTML	HyperText Markup Language	na	not available
CDMA	Code Division Multiple Access	Hz	Hertz	OIBDA	Operating Income before Depreciation and Amortization
CEO	Chief Executive Officer	IDD	International Direct Dialling	POP	Point of Presence
CRM	Customer Relationship Management	ILD	International Long-Distance	q-o-q	quarter-on-quarter
D-AMPS	Digital-Advanced Mobile Phone Service	IPO	Initial Public Offering	R&D	research and development
DLD	Domestic Long-Distance	IP	Internet Protocol	SDSL	Symmetric Digital Subscriber Line
DMB	Digital Multimedia Broadcasting	IPTV	Internet Protocol TV	SIM	Subscriber Identity Module
DSL	Digital Subscriber Line	ISDN	Integrated Services Digital Networks	SMS	Short Messaging Service
DSLAM	Digital Subscriber Line Access Multiplexer	ISP	Internet Service Provider	TDMA	Time Division Multiple Access
DSU	Digital Subscriber Unit	IT	Information Technology	TD-SCDMA	Time Division-Synchronous Code Division Multiple Access
DTH	Direct-To-Home	ITU	International Telecommunication Union	trn	trillion
DVB-H	Digital Video Broadcasting-Handheld	JV	joint venture	UMTS	Universal Mobile Telecommunications System
DVB-SH	Digital Video Broadcasting-Satellite Handheld	Kbps	kilobits per second	VOD	Video On Demand
e/f	estimate/forecast	KHz	kilohertz	VoIP	Voice over Internet Protocol
EBITDA	Earnings before Interest, Taxes, Depreciation and Amortization	km	kilometres	VLAN	Virtual Local Area Network
EC	European Commission	LANs	Local Area Networks	WAP	Wireless Application Protocol
EMEA	Europe, Middle East & Africa	LEC	Local Exchange Carrier	W-CDMA	Wideband CDMA
EV-DO	Evolution-Data Optimised	LTE	Long-Term Evolution	WiBro	Wireless Broadband
FDI	Foreign Direct Investment	m	metres	WiMAX	Worldwide Interoperability for Microwave Access
FTTB	Fibre-To-The-Building	mn	million	WLL	Wireless Local Loop
FTTH	Fibre-To-The-Home	MEA	Middle East & Africa	WTO	World Trade Organization
FTP	File Transfer Protocol	NGN	Next Generation Network	y-o-y	year-on-year
Gbps	gigabits per second	Mbps	megabits per second		

BMI Methodology

How We Generate Our Industry Forecasts

BMI's telecommunications industry forecasts are generated using a number of principal criteria, and differ from the regression and/or time-series modelling used in other industries.

Table: Key Indicators For Telecommunications Industry Forecasts

Emerging markets	Weighting
Average market growth	80%
Subjective indicators	
– Real GDP growth	25%
– Inflation	-5%
Developed markets	
Average market growth	90%
Subjective indicators	
– Real GDP growth	15%
– Inflation	-5%
Telecommunications business environment ratings	
– Telecommunications ratings	na
– Country risk short-term ratings	na
– Country risk long-term ratings	na

na = not applicable. Source: BMI

Average Market Growth

Indicator takes into consideration the historical growth patterns of the fixed-line, internet, broadband and mobile markets, providing a basis from which to forecast. Using historical data is often the most desirable method of analysis. In most cases, subscriber data is derived from individual operators and/or national regulators.

Subjective Indicators

Indicators look at a number of factors, such as:

- Neighbouring/similar states. These types of markets often share similar telecoms markets. For example, Japan and South Korea are highly developed technophile markets where growth prospects are high in 3G. Meanwhile, China and India offer high growth in successfully emerging markets.

- Tracking growth. High growth may be more likely to be repeated in the near future, and is unlikely to turn into a significant decline in the short term, although there may be exceptions to this rule.

- Market maturity. Where markets have reached saturation they are not likely to expand as fast as those that are less developed.

- Competition from alternative technologies, such as VoIP versus fixed-line, ADSL versus WiMAX

- Operator behaviour. Operators' corporate strategies and investment behaviour may dictate changes in the telecommunications market. This is similarly the case for regulatory developments, which have been accounted for in our integration of the Telecommunications Business Environment Ratings.

The remaining weighting of real GDP represents the health of the economy, and the inflationary weighting represents investment confidence. For example, high inflation distorts investment confidence in the telecoms market.

The indicators are adjusted by **BMI**'s independent benchmark ratings, which look at a significantly higher number of indicators, and involve our:

- Telecommunications Business Environment Ratings. A more comprehensive assessment of the Risk/Return trade-off for the industry (*see Telecoms Business Environment Ratings below for greater explanation*); as well as,

- Country Risk Ratings. For short-term (one-to-two year period) and long-term (three years and more) economic and political ratings.

Telecoms Business Environment Ratings

Risk/Reward Ratings Methodology

BMI's approach in assessing the risk/reward balance for Telecoms Industry investors globally is fourfold. First, we identify factors (in terms of current industry/country trends and forecast industry/country growth) that represent opportunities to would-be investors. Second, we identify country and industry-specific traits that pose or could pose operational risks to would-be investors. Third, we attempt, where possible, to identify objective indicators that may serve as proxies for issues/trends to avoid subjectivity. Finally, we use BMI's proprietary Country Risk Ratings (CRR) in a nuanced manner to ensure that only the aspects most relevant to the Telecoms Industry are incorporated. Overall, the system offers an industry-leading, comparative insight into the opportunities/risks for companies across the globe.

- **Ratings System**

  Conceptually, the ratings system divides into two distinct areas:

- *Rewards*: evaluation of sector's size and growth potential in each state, and also broader industry/state characteristics that may inhibit its development, such as the broader economic/socio-demographic environment.

- *Risks*: evaluation of industry-specific dangers (regulatory and competitive issues) and those emanating from the state's political/economic profile that call into question the likelihood of anticipated returns being realised over the assessed time period.

- **Indicators**

  The following indicators have been used. Overall, the rating uses three subjectively measured indicators, and around 20 separate indicators/datasets.

Table: Ratings Indicators	
Indicator	**Rationale**
Rewards	
Industry rewards	
ARPU	Denotes depth of telecoms market. High-value markets score better than low-value ones.
No. of subscribers	Denotes breadth of telecoms market. Large markets score higher than smaller ones.
Subscriber growth,	
% y-o-y	Denotes sector dynamism. Scores based on annual average growth over our five-year forecast period and also take into account the penetration rate.
No. of operators	Subjective evaluation against BMI-defined criteria. Evaluates market openness and competitiveness.
Overall market structure score also affected by telecoms sector tax rate and, where relevant, broader security issues.	
Country rewards	
Urban/rural split	A highly urbanised state facilitates network roll-out and implies higher wealth. Predominantly rural states score lower, with overall score also affected by country size.
Age range	Proportion of population under 24 years old. States with young populations tend to be more attractive markets.
GDP per capita, US$	A proxy for wealth. High income states receive better scores than low income states.
The overall score for country structure is also affected by the power transmission network's national coverage.	
Risks	
Industry risks	
Regulatory independence	Subjective evaluation against BMI-defined criteria. Evaluates predictability of operating environment.
Country risks	
Short-term external risk	Rating from BMI's Country Risk Ratings (CRR). Denotes state's vulnerability to externally induced economic shock, which tend to be the principal triggers of economic crises.
Policy continuity	From CRR. Evaluates the risk of a sharp change in the broad direction of government policy.
Legal framework	From CRR. Denotes strength of legal institutions in each state – security of investment can be a key risk in some emerging markets.
Corruption	From CRR. Denotes risk of additional illegal costs/possibility of opacity in tendering/business operations affecting companies' ability to compete.

Source: BMI

Weighting

Given the number of indicators/datasets used, it would be inappropriate to give all sub-components equal weight. Consequently, the following weighting has been adopted.

Table: Weighting Of Indicators	
Component	**Weighting, %**
Rewards	70, of which
– Industry rewards	65
– Country rewards	35
Risks	30, of which
– Industry risks	40
– Country risks	60

Source: BMI

Sources

Sources used in telecoms reports include national ministries and media/telecoms regulatory bodies, officially released company results and figures, national and international industry organisations, such as the CTIA, the GSM Association and the International Telecommunication Union (ITU) and international and national news agencies.