



Information Paper

Overview of the Global Roaming Market outside of the European Union

October 2011

The GSMA represents the interests of the worldwide mobile communications industry. Spanning 219 countries, the GSMA unites nearly 800 of the world's mobile operators, as well as more than 200 companies in the broader mobile ecosystem, including handset makers, software companies, equipment providers, internet companies, and media and entertainment organisations

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Executive Summary

Globally and within regions mobile markets are developing at unequal rates, resulting in high market heterogeneity

Different countries are at different stages of development, resulting in varying levels of GDP per capita and mobile penetration rates by region. For example, GDP per capita in Sub Saharan Africa can be up to 207 times higher for some countries compared with others within that region. Similarly, mobile penetration in Africa can be over 40 times lower in some countries compared with others in the region, and is on average 3 times lower than in the European Union. Varying levels of economic and mobile market maturity affect the extent of roaming usage and its relevance as a service for consumers. This heterogeneity of market conditions within regions around the world means that a global regulatory approach would be unworkable, and could have unintended consequences for the market and consumers.

Mobile markets are rapidly evolving in most regions but roaming is still emerging from a low yet expanding usage base

Double digit annual growth in mobile subscribers and traffic indicates that mobile markets in several developing regions are experiencing strong growth. For example, in Sub Saharan Africa the number of SIMs is increasing at 25% and mobile voice traffic at 11% per annum since 2008.¹ However, this growth is coming off a lower base, for example the penetration of mobile services in Africa is about a third of the penetration in Europe. Therefore, even though roaming markets outside of the EU account for around just 60% of the global roaming market, and the fact that this represents 94% of the global population, combined with the double digit annual growth in mobile subscribers for some markets is an indicator of the potential for growth in roaming.² Growth in tourism, business travel and prepaid accessibility is expected to drive future roaming usage, but a market in such early stages of development must be allowed to develop unhindered.

Roaming market development is inhibited by structural, technical and commercial barriers that are unique to local market conditions and must be corrected before they can develop competitively

Over the past few years there has been considerable regulatory activity at a regional level, the majority of which has focussed on correcting the structural and technical barriers that exist in each region, such as double taxation, international gateway liberalisation and prepaid roaming route availability. It is crucial for regulators to address these local issues before any further market intervention is deemed appropriate.

Market trends are positive and the industry is committed to taking the lead to ensure consumers receive the best value for their roaming services

While there are some challenges to the development of roaming, market trends are positive. Prices are declining, with some retail tariffs outside the EU having decreased by up to 82% since 2007. To

¹ Source: Wireless Intelligence

² Source: Confidential operator data, Gartner, Informa, UNWTO, EIU, A.T. Kearney analysis

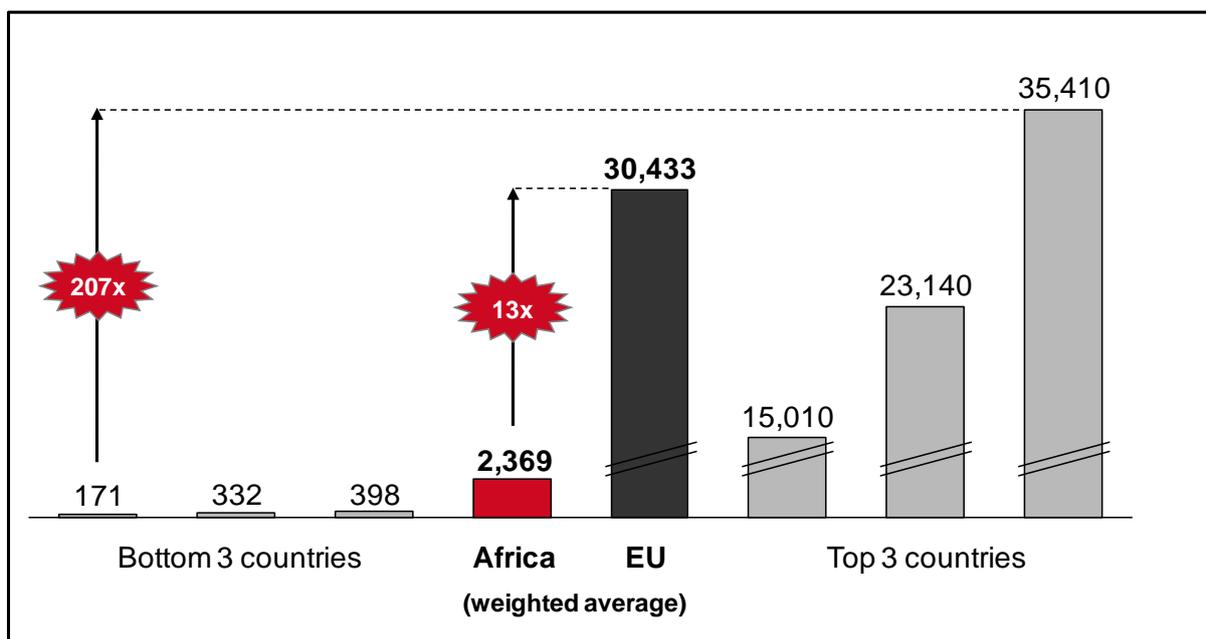
compete with strong substitutes, operators are constantly innovating by offering consumers competitive bundles and in many regions eradicating roaming charges completely, when commercially feasible. Operators are also taking the lead in addressing key regional challenges, such as inadvertent roaming in Latin America. The industry recognises that resolving issues such as inadvertent roaming and inadequate consumers awareness are an efficient tool to promote competition and uptake, and operators are committed to ongoing improvements to this end.

Market Overview

Globally and within regions economies and mobile markets are at earlier and more disparate stages of development, resulting in market heterogeneity

Not only is there huge disparity among economies within one region, but also the regions themselves are at different levels of economic development. For example, GDP per capita in Sub Saharan Africa can be up to 207 times higher in some countries compared with others within the region, and is on average 13 times lower than the EU (Figure 1). These disparities can also be observed in other regions, such as Latin America with differences in GDP per capita of up to 37 times and the Arab World with differences of up to 36 times.³

Figure 1. Africa vs. EU GDP per capita (USD PPP)⁴

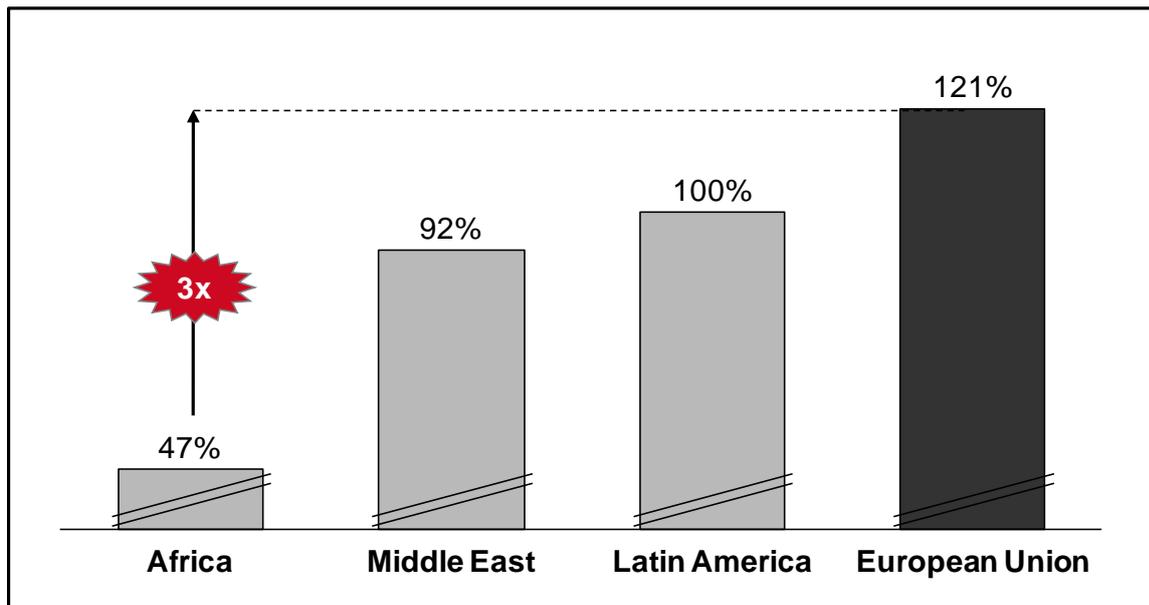


The mobile market state within and between regions also differs significantly. Some markets experience European levels of penetration, while for others mobile ownership is still very much a new service with low take-up (Figure 2). As a result, the extent of roaming usage and its relevance as a service for consumers varies extensively by country.

³ Source: EIU – GDP per capita at PPP for the Arab World and GDP per capita nominal for Latin America

⁴ Source: EIU, A.T. Kearney analysis

Figure 2. Average mobile penetration rates of selected regions, Q2 2011, %⁵



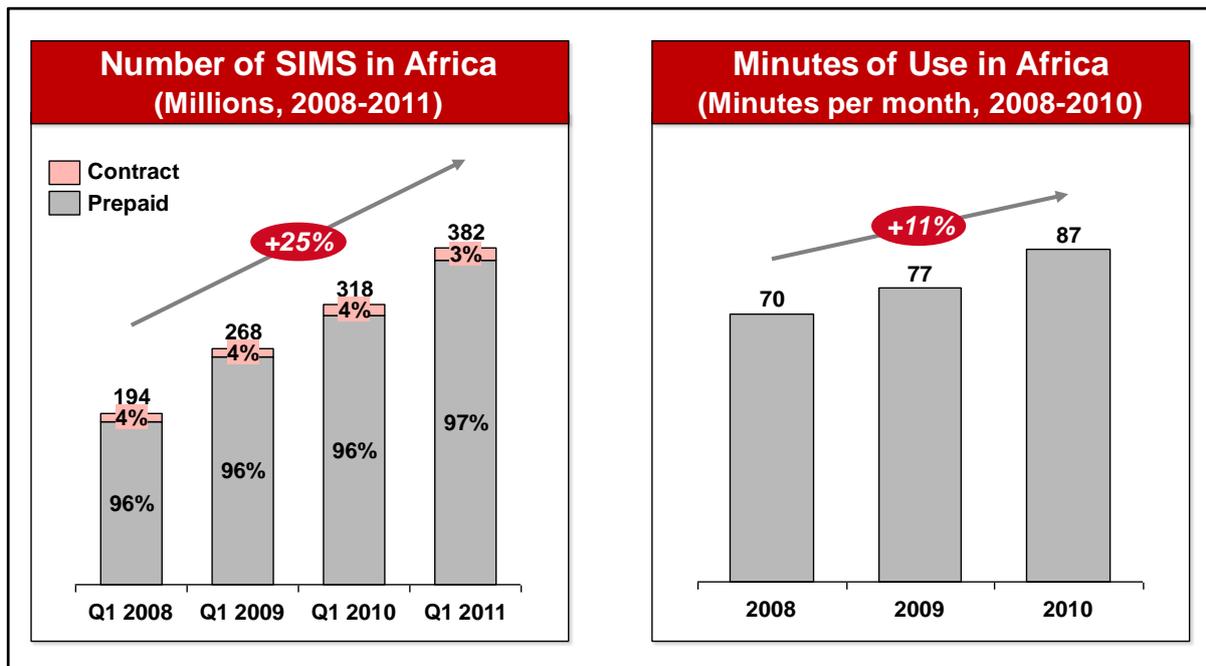
Mobile markets are rapidly expanding in both subscribers and traffic. This is in stark contrast to roaming markets, which are still immature yet nascent in their emergence

In several regions the mobile industry is still in a growth phase; the market is expanding rapidly in terms of subscriber numbers and mobile usage. In the case of Africa, minutes of use per subscriber is growing at a slower pace than the number of SIMs (Figure 3), and average revenue per user fell 8% from Q1 2010 to Q1 2011.⁶ These trends are present in many regions and are indicative of a market where more marginal, low-income users are joining mobile networks.

⁵ Source: EIU, Wireless Intelligence, Merrill Lynch Wireless Matrix, A.T. Kearney analysis. Penetration rates are calculated using total connections over population

⁶ Source: Wireless Intelligence – based on ARPU data available for 78 operators in 36 countries in Africa

Figure 3. Development of African mobile market, 2008 - 2011⁷



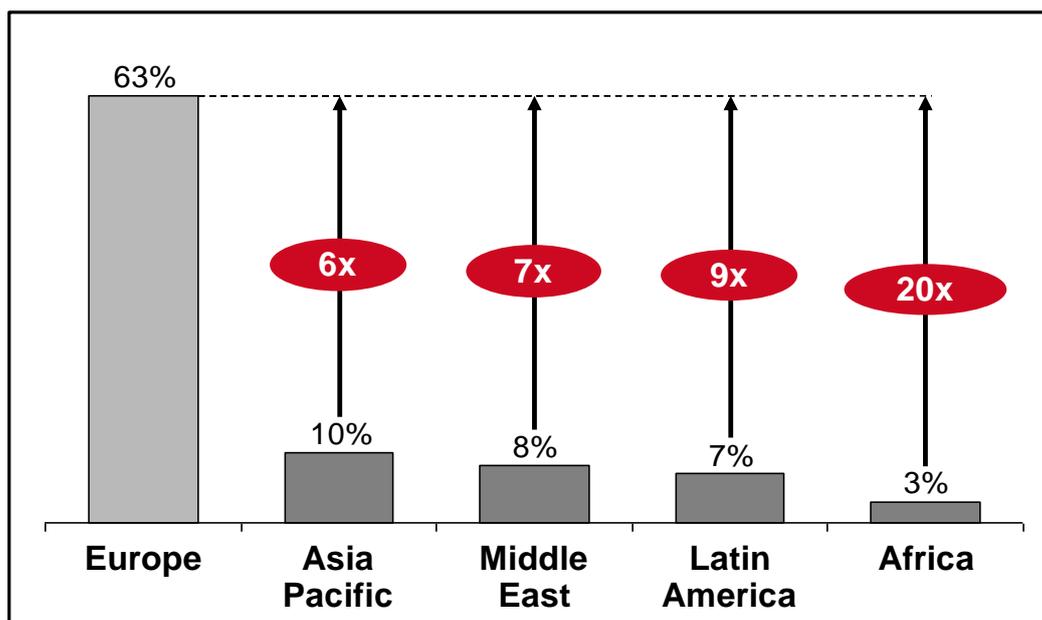
Whilst the mobile market is growing strongly, the roaming market is still in the early stages of development. A good proxy to measure the strength of the roaming market is related to the ratio of international trips to population. Based on recent statistics published by the WTO, the current ratio of international trips to population is significantly lower in regions outside the EU, as can be seen in Figure 4. However, continued regional economic integration which promotes growth in business traffic and tourism is expected to drive future growth in roaming usage.

An additional factor contributing to the growth of roaming, particularly in regions where the number of prepaid subscriptions prevail – e.g. Latin America with 82% of prepaid penetration or Africa with 97% prepaid penetration⁸ – is the number of available prepaid roaming routes (see next section). Operators' investment in this area has been significant over the past few years. As operators continue to heavily invest in prepaid route availability, and larger volumes of customers gain access to roaming services, uptake is expected to increase.

⁷ Source: Wireless Intelligence. Minutes of Use estimated per SIM is a simple average based on a sample of 6 African countries

⁸ Source: Wireless Intelligence, Q1 2011

Figure 4. Ratio of international trips to population for selected regions, 2010⁹



Whilst these markets are nascent, it is important that regulators foster an environment that promotes investment and ICT development; both to drive roaming uptake and to support price plans that deliver adequate returns to enable the market to grow.

In summary, even though regulators within different regions around the world may share a common concern about the level of roaming charges and consumer bill-shock, this concern cannot be addressed by one global solution. Differences in market conditions that have been identified between and within regions means the reasons for any high roaming charges or the cause of bill-shock is likely to differ between and within regions. It follows that regulators can only address any concerns at the local and not at the global level.

Any attempt to uniform, global regulatory recommendation may fail to address the source of any problem, and is likely to be detrimental to market performance. A uniform, global regulatory recommendation cannot take in account all of the different local market conditions, and thus it may fail to address the actual cause of any problem within a region. In addition, the imposition of such a recommendation may introduce new problems which further reduce market performance.

⁹ Source: UNWTO, EIU, A.T. Kearney analysis. Based on number of trips divided by population so overestimates % of unique roamers. Regions based on UNWTO definitions. Previously stated figure (in 2008) is the number of mobile subscribers that have used roaming services at least once in a year

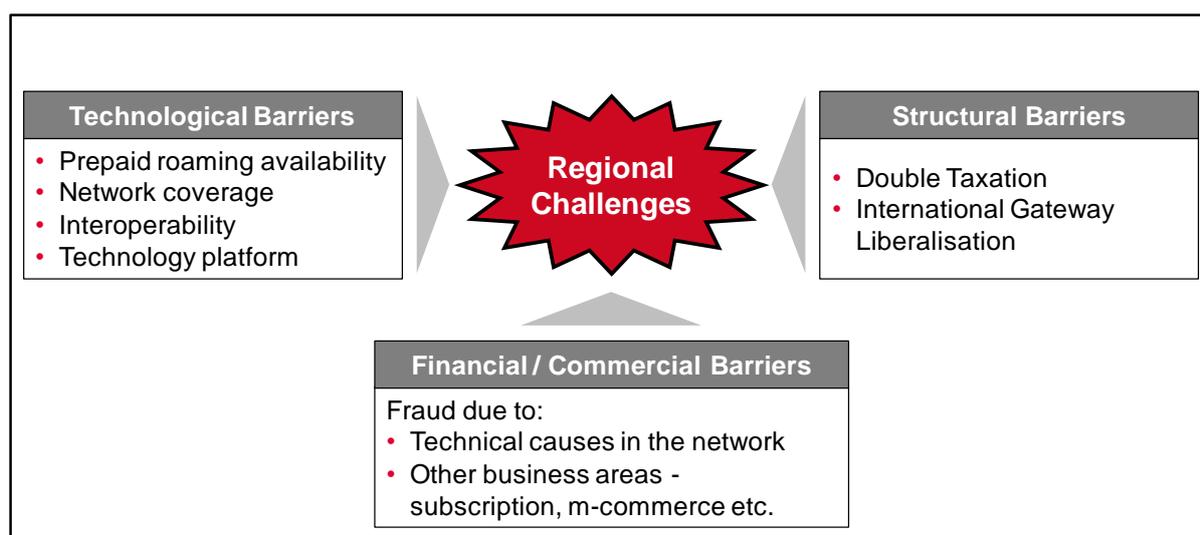
Regional Challenges to Roaming Market Development

Some barriers to a well-functioning roaming market still exist in many regions. It is crucial that regulators address these local issues before any further market intervention can be deemed appropriate.

Over the past few years there has been considerable regulatory activity at a regional level in Latin America, Southern Africa, Asia Pacific, and the Middle East. Some of the activity has been focused on removing some of the barriers for roaming. Although some progress has been made to remove some of the barriers that still exist in many regions (see examples in Figure 5), more could still be done. The role of regulators and governments in removing regional and co-regional challenges will be critical

Legal and technical developments are required to remove structural barriers such as double taxation and international gateway monopolies, financial barriers such as fraud, and technological barriers such as non-harmonised technical standards (see Figure 5). All of these are vital to reducing roaming charges in many regions.

Figure 5. Key regional challenges to roaming market development



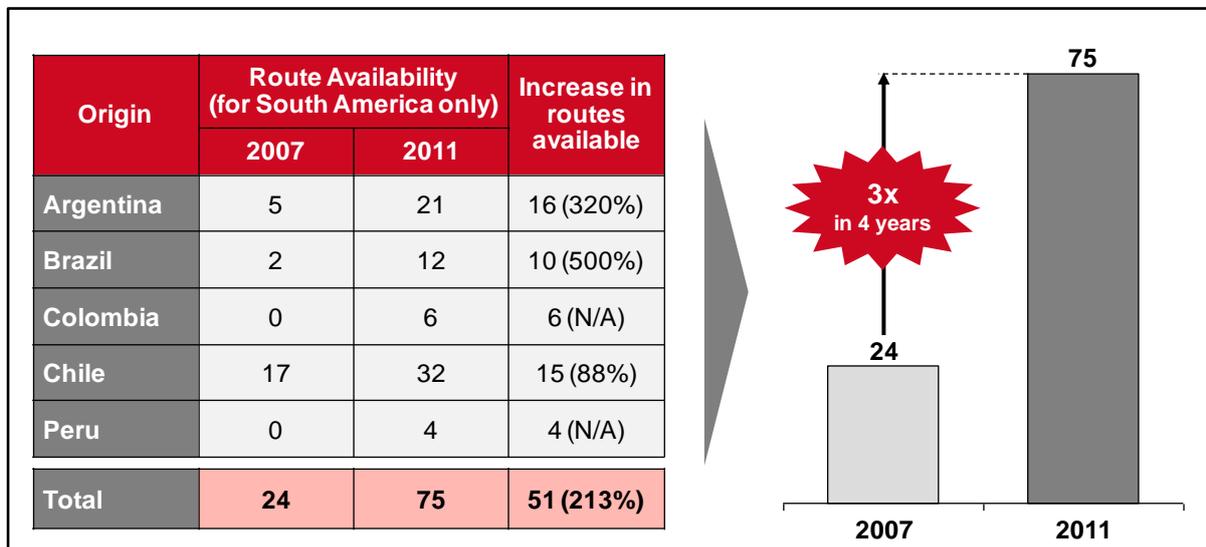
Introducing roaming regulation whilst these obstacles still exist could force operators in certain regions to reduce roaming rates below cost, either impacting their profitability or their ability to provide customers with roaming services.

Technological challenges have and will continue to require heavy investment from operators. Regulatory intervention is likely to diminish the ability of operators to invest in eliminating these challenges

In order to increase the accessibility of roaming services to their customers, many operators have invested heavily in improving roaming services for this segment. For example, the number of prepaid routes increased 3 times from 2007-2011 for a sample of 5 of the largest South American countries (Figure 6). Pre-paid platforms such as CAMEL are generally expensive to implement and initially yield

lower returns than that of post-paid customers.¹⁰ However, operators understand that future demand from prepaid customers is critical to increasing roaming usage and can only be captured if the necessary infrastructure is in place.

Figure 6. Prepaid route availability for a sample of South American countries, 2007 vs. 2011¹¹



Network coverage is improving but in some regions remains a technological challenge as operators continue to roll-out and upgrade their networks. For example, 2G coverage in Columbia and Peru increased by 74% and 69% respectively from 2009-2010 and access to 3G in those countries is now over 50% of the population (Figure 7).

¹⁰ Source: Confidential operator interviews

¹¹ Source: 2011 route availability found on operator websites, 2007 route availability taken from IIRSA South American Roaming Initiative report, 2009. Route availability is the number of available prepaid routes (only for South American destinations) * number of operators that offer each route

Figure 7. 2G and 3G network coverage as a percentage of population for selected Latin American countries, 2010 vs. 2009¹²

Country	Network coverage as % of population		% increase in network coverage since 2009	
	2G	3G	2G	3G
Argentina	99%	75%	19%	N/A
Brazil	97%	75%	13%	100%
Colombia	94%	52%	74%	N/A
Mexico	93%	39%	9%	34%
Peru	95%	65%	69%	N/A

As we look within and across the different regions, it is clear that interoperability challenges, caused by the existence of different network technologies and different GSM spectrum frequencies, are still in existence and limit the ability of roaming, particularly with low-cost handsets. As operators continue to upgrade their technology platform, interoperability and coverage should increase, but technical implementation costs must be absorbed by operators.

Technological constraints such as these require large investments, which especially burden smaller operators. Regulation that reduces the capital available for such upgrades could severely limit the ability of operators to invest in necessary improvements to cope with future demand and technology.

Even with widespread use of roaming services, prices on routes with monopolised international gateways will continue to remain high until all gateways are liberalised

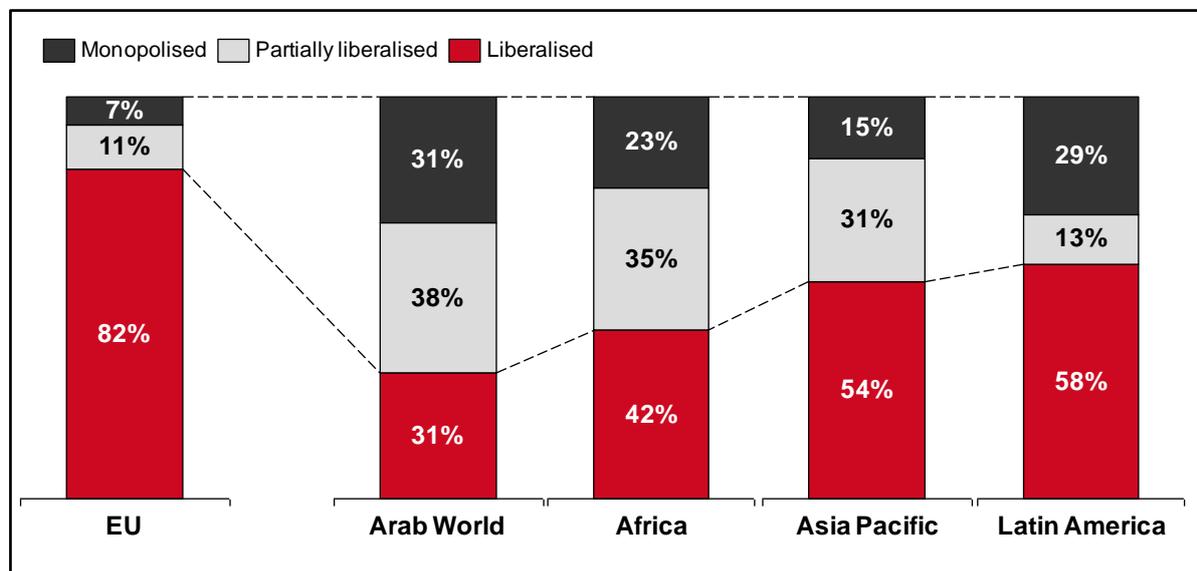
The international call component is a very important element in roaming calls given that the majority of roamers make calls back home - for example, in Latin America 79% of roaming calls are made back home.¹³ ILD termination costs are a large component of wholesale costs which is out of the control of operators in routes with monopolised international gateways. Even with volume growth, there is no bargaining power for operators whilst gateways are not liberalised. As a result,

¹² Source for 2010 data: Teleco, Operators, ITU, ANATEL; CRT (via SIUST), Ministry of Transport and Communications of Peru, GSMA. Source for 2009 data: GSM coverage analysis by area and population, October 2009. Peru 3G penetration calculated on the basis of number of inhabitants in districts where there is at least one customer with ADSL (14%), in the case of broadband and 3G (348 districts covered with 3G network of total 1833) for case of mobile telecommunications. December 2010. Mexico 3G penetration calculated using the population of cities where 3G service is enabled. The information of the cities with 3G service is current as of January 2010

¹³ Source: Confidential operator data, A.T. Kearney analysis

retail tariffs to end-users are higher. International gateway monopolies are still prevalent in several regions, with monopolies or partial liberalisation existing in over half of Sub-Saharan Africa (Figure 8).

Figure 8. International Gateway status, Africa vs. European Union¹⁴



Liberalisation of international gateways can reduce roaming wholesale costs which in turn can reduce end-user prices. In the Middle East, international roaming call prices between Arab countries with liberalised gateways were typically 25% lower than between Arab countries with gateway monopolies.¹⁵ We would expect the same trend to be found on liberalisation of international gateways in other regions.

The financial burden of double taxation is passed onto consumers as an additional cost and will substantially inflate end-user prices until double taxation is removed (applicable to Latin America)

Whilst initiatives by regional regulatory bodies such as IIRSA exist to help remove double taxation, the problem still exists and continues to substantially increase roaming tariffs for customers. In 2009 double taxation remained on 72% of roaming routes in South America.¹⁶ In Latin America VAT rates ranged from 0% to 22% and averaged 14% in 2010.¹⁷ As a result of double taxation, retail prices for consumers could on average increase by 28% (Figure 9). On some routes additional withholding and local, state and federal taxes could increase this figure considerably.

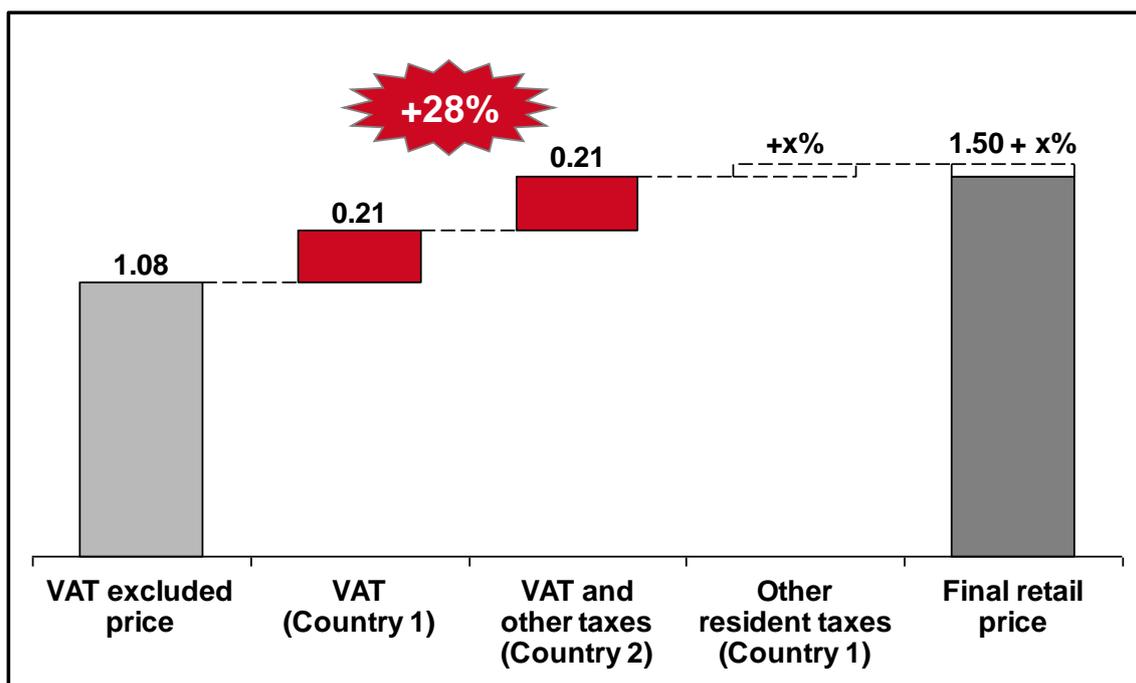
¹⁴ Source: ITU 2005-2010 data, international gateway status as defined by the ITU

¹⁵ Source: ITU 2005, GSMA/Case Associates 2007, A.T. Kearney analysis

¹⁶ Based on a sample of 10 South American countries. Source: IIRSA Regional Study of South American Roaming Services Market, April 2009

¹⁷ Source: KPMG's Corporate and Indirect tax survey 2010

Figure 9. Hypothetical impact of double taxation on end-user roaming prices in Country 1, \$/min, 2011¹⁸



Fraud remains a major financial concern for operators despite increased efforts to eradicate it, and will require further investment to combat

The follow diagram sets out the methods of fraud encountered in the roaming market. Fraud can cause loses of up to 5% of total mobile revenues in Latin America, up to 25% of which can occur whilst consumers are roaming.¹⁹ Slow detection and response times result in delays of up to 3 days in reporting fraud whilst roaming to the relevant operator. The GSMA and regional bodies are leading initiatives to reduce fraud, for example NRTDRE²⁰, which limits the opportunity for fraud by reducing timeframes of processing calling records from 36 hrs to 4 hrs.

Whilst over 80% of Latin American operators have implemented NRTDRE,²¹ for fraud to be reduced NRTDRE must be enforced through roaming agreements. This will require further investment in technology and the negotiation of roaming agreements.

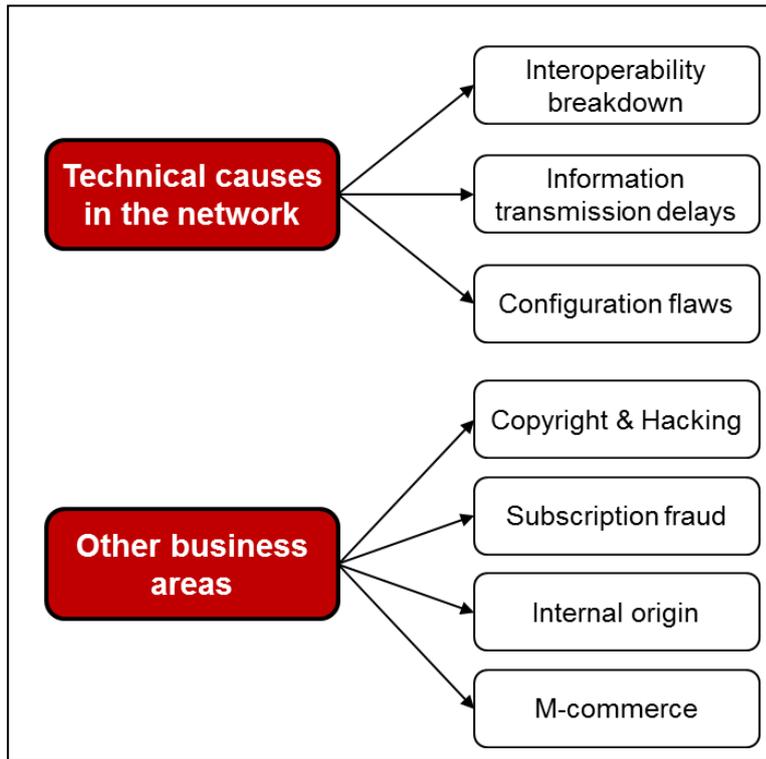
¹⁸ Source: IIRSA Regional Study of South American Roaming Services Market, April 2009; EIU; Operator websites

¹⁹ Source: IIRSA: Initiatives for the improvement of the South American market of roaming services, Analysis and Recommendations, February 2010

²⁰ NRTDRE: Near Real Time Data Roaming Exchange

²¹ Source: IIRSA: Initiatives for the improvement of the South American market of roaming services, Analysis and Recommendations, February 2010

Figure 10. Methods of fraud in the roaming environment ²²



²² Source: Roaming fraud: assault and defence strategies. IIRSA/CITEL workshop on international roaming services, March 11th 2008

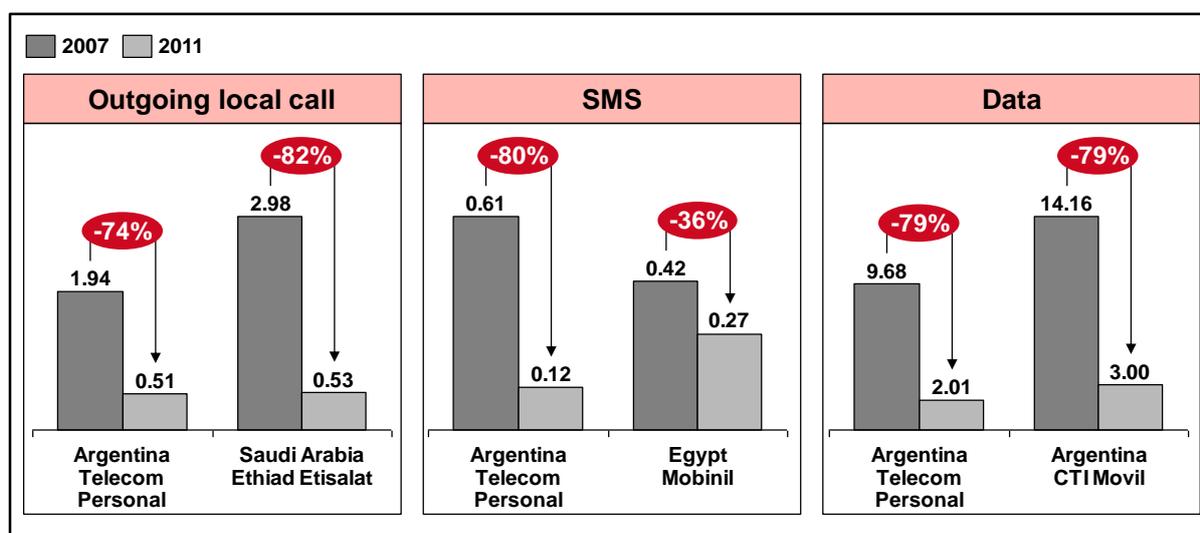
Roaming Market Trends and Opportunities

Whilst there are some challenges to the development of regional roaming, trends in the market are positive. Mobile market growth indicates that customer bases are increasing in both size and usage. Increasing GDP per capita, rebounding inter-regional tourism and continued regional economic integration auger well for both business and leisure roaming market growth. Equally, there is a strong substitutes market in direct competition with mobile roaming and operators are continuously improving roaming offers and transparency to ensure consumers receive the best value from their roaming services.

The global roaming market is characterised by strong price declines across all services and widespread tariff innovation

Operators in all regions are driving retail tariff prices down across all services, with declines of up to 82% since 2007 (Figure 11). Another trend over the past few years has been the proliferation of roaming alliances²³ and partner network roaming agreements which provide consumers access to discounted roaming tariffs, in some cases up to an 90% reduction compared to standard tariffs.²⁴ Some specific examples from round the world of recently launched, innovative pricing is given in Annex 1.

Figure 11. Like-for-like comparison of selected post-paid retail tariffs from Latin America and the Middle East, \$/min, \$/SMS and \$/MB, incl. tax, 2007 vs. 2011²⁵



In some regions, the presence of operators with large geographical footprints has decreased roaming rates to levels similar to domestic tariffs. For example, the Zain “One Network” offers customers roaming rates in 21 countries across Africa and the Middle East that are equal to visited

²³ For example, Asia Pacific Mobile Alliance, Bridge Mobile Alliance, Starmap Mobile Alliance, Roaming Alianza Alliance

²⁴ Bridge Mobile Alliance on data roaming in Asia Pacific, dependent on the visited network

²⁵ Source: Tariffs in 2011 are taken from operator websites. 2007 tariffs for Latin America are taken from IIRSA South American Roaming Initiative report, 2009. 2007 tariffs for the Middle East are taken from GSMA Arab World “Best Roaming Fares” web site

country local rates when customers roam on the Zain network. Other pan-African operators have followed suit to encourage roaming usage over purchasing of a local SIM, which is a common phenomenon and competitive substitute in Africa and Asia Pacific. The Kawa Kawaida alliance offers favourable rates across East Africa, Du offers a single preferential rate across the Gulf countries with local and incoming calls at AED1.25/min (€0.24/min), and MTN’s One World ensures local calling rates across African sub-regions.

Innovative sub-region/bilateral packages are also facilitating cross-border travel and trade. Glo’s UNI World encourages roaming between bordering Nigeria and Benin through reduced tariffs. Similarly Argentina’s Claro supports Uruguay – Argentina – Paraguay tourism through reduced rates and innovative monthly roaming bundles.²⁶

Equally, operators are offering innovative global tariffs, such as Vodafone Passport or Vodafone Traveller, which permit customers to roam on their standard domestic rate plus a connection fee. In addition to these offers, new roaming bundles and standard tariffs are being launched on a frequent basis indicating significant commercial activity to provide competitive roaming offers to regional and global consumers (Figure 12).

Figure 12. Selection of recent roaming tariff offers available in the market

The figure is a collage of news snippets related to international roaming tariffs. The snippets are as follows:

- China Unicom Lowers International Roaming Fees**
 Thursday 2011-09-01 15:17 Publisher: CapitalVue
 September 1 -- **China Unicom (600050,0762.HK)** announced that it will cut international roaming fees in 30 countries by a maximum of 70 percent, reports 163.com, citing a company filing. This is the third time **China Unicom** cut international roaming fees this year.
- Axiata offers 90% lower roaming charges**
 Wednesday, June 15th, 2011 21:56:00 KUALA LUMPUR: Axiata Group Bhd has launched an enhanced roaming proposition which will significantly slash roaming rates by up to 90 per cent for all SMS, local calls and calls back home. The unique roaming
- Unified roaming rates for etisalat customers**
 Customers will enjoy improved roaming rates across all zones. The offer will also include data roaming without worrying about
- Lower Roaming Charges For 10 Nations**
 Text size [- +]
 Mobile Communications Company of Iran (MCI) plans to decrease roaming charges for 10 countries which host the highest number of Iranian visitors, announced the
- Airtel Nigeria Launches New Roaming Promotion**

In particular in Latin America, the industry is leading the way to eradicating inadvertent border roaming through innovative initiatives. Examples include specialised border tariffs, the option to

²⁶ Source: Operator website – monthly bundles of 20 mins and 25 SMS for \$33 are available

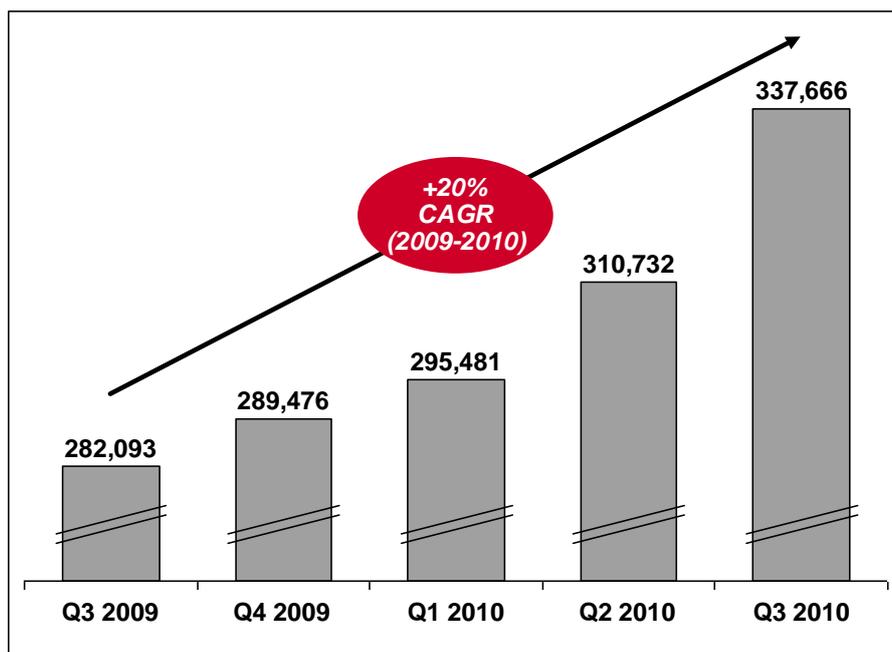
disable individual customer roaming, and immediate SMS alerts when customers start roaming on a visited country network.

There is already a strong substitute market which is in direct competition with mobile roaming services, especially data services

Today, there are multiple substitutes available for roaming services and technologies in these areas continue to evolve rapidly. Wi-Fi has grown as a strong substitute for an increasing number of customers and operators alike in both the domestic and roaming market (Figure 13).

Some operators are contributing to a shift in data traffic by encouraging customers to use Wi-Fi networks when possible. This is driven by rapid growth in demand and congestion of mobile networks in some regions (especially, but not only those with limited spectrum). There has been a strong push from manufacturers and service providers to increase the availability and penetration of Wi-Fi-enabled handsets. Today all major smartphone manufacturers include Wi-Fi capability in their handset portfolios; this feature allows consumers to use Wi-Fi hotspots both at home and abroad. The smartphone market is forecast to grow rapidly and by 2012 handheld devices are expected to account for 50% of all hotspot sessions.

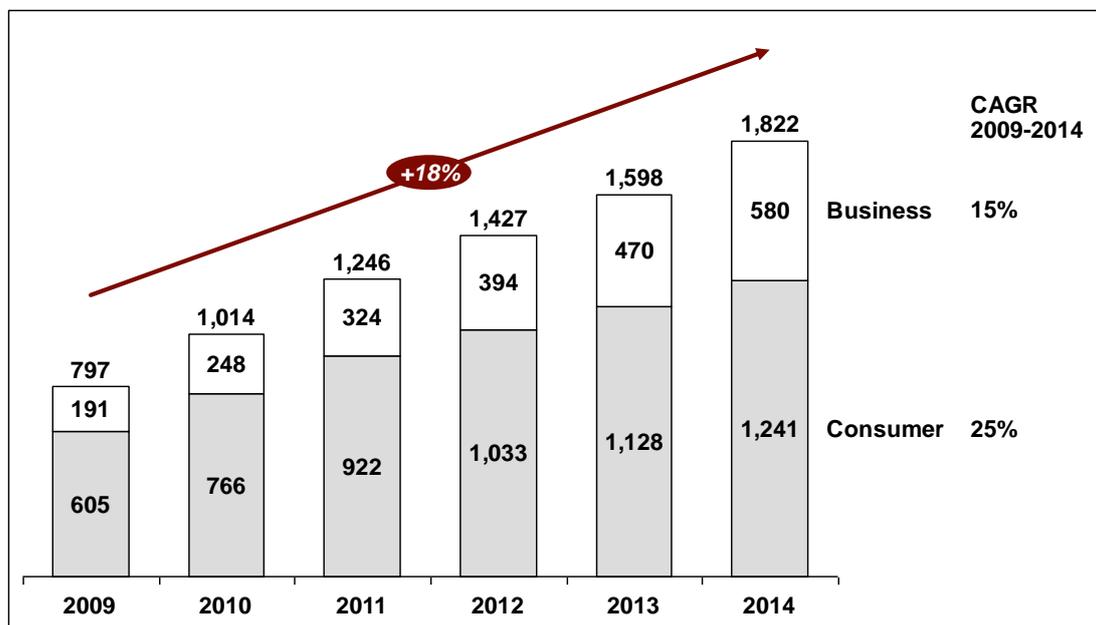
Figure 13: Global growth in public Wi-Fi locations²⁷



In addition to supporting data services, both 3G and Wi-Fi networks can support mobile voice-over-IP (VoIP) applications and several mobile operators are developing relationships with mobile VoIP players such as Skype. The traffic growth of VoIP platforms has been significant, with VoIP minutes forecast to rise to 1.8 trillion by 2014, a growth rate of 18% p.a. (See Figure 14). It is clear that both domestic and roaming users will continue to use VoIP applications and Wi-Fi services as a substitute for roaming voice, SMS and data services.

²⁷ Source: JiWire, Q3 2010

Figure 14: Global growth in public VoIP traffic, billion minutes²⁸



Local SIMs have always been an important substitute for roaming services for those visiting other countries and particularly popular among regular visitors, migrant workers etc. Some Middle Eastern operators are evolving the concept of a Local SIM by offering a temporary local phone number which works in parallel with a user’s home number without the need for an additional SIM.²⁹ Substitutes for data services are also a popular offering, given that the customer does not have any attachment to a phone number.

The Asian and Pacific consumers, for example, make use of roaming substitutes. They have adopted SIM-based alternatives to international mobile roaming across multiple Asian and Pacific regions. Call-by-call substitutes to roaming for corporate and business users are already having a significant impact on the roaming market in Asia. As the usage of substitutes continues to increase, roaming prices will be reduced further. Certain substitutes may be more appropriate than others depending on national market conditions.

The industry has always been committed to customer protection. Improvements in transparency are ongoing and continue to ensure consumers receive the best value from their roaming services

Easy access to up-to-date personalised tariff and usage information allows consumers to quickly understand the range of options available in the market. Operators use several methods to ensure consumers are aware of the latest offers, such as consumer-friendly websites and via a “welcome SMS” to roaming customers.

²⁸ Source: IDC, October 2010

²⁹ For example: <http://www.stc.com.sa/cws/portal/en/individual/ind-aljawal/ind-alj-discover/ind-alj-dis-traveller/ind-alj-dis-traveller-visitors/ind-alj-dis-vstors-localrming?favouritLang=en>

Within the EU, the industry has made considerable investment to relieve customer concerns over “bill shock”, which was an issue that operators considered important to resolve in order to gain customer acceptance and confidence – especially in data roaming services. Comprehensive warning systems and informative websites have been developed to ensure consumers understand their usage, and data roaming services are blocked as per regulation/customer preference when a data usage limit is reached.

These transparency measures are not unique to the EU. Selected operator examples include SMS warning systems for Antel and Movistar customers in Latin America, and roaming “user guides” for Mobily Saudi Arabia and Comcel Colombia customers.³⁰ In Hong Kong, several operators are also offering flat-rate data roaming daily plans on an opt-in basis before leaving the country to ensure no bill shock for consumers.

For the prepaid segment in particular, many operators are offering customers the ability to top-up with local cards while travelling abroad. This, in addition to easily accessible, free of charge customer support, allows prepaid customers the freedom to fully understand their roaming options and top-up their credit whether they are at home or abroad.

³⁰ Source: Confidential operator interviews, operator websites

Annex 1: Examples of recently launched or innovative roaming tariffs

Operator	Cost ³¹	Coverage	Launch date
2degrees (New Zealand)	Data: €1.4/MB Voice: €0.25/minute	Australia	May '11
2degrees (New Zealand)	Data: €11.2/month for 10 MB	Australia, UK, USA	May '11
Airtel (Nigeria)	Voice: €0.16/min for first 30 mins Voice: €0.05/min after 30 mins	US, Canada, UK, India and China	Mar '11
Axiata (Asia Pacific)	Voice: Local rates for calls back home when roaming on Axiata network Data: Free data roaming on Axiata network	Indonesia, Sri Lanka, Bangladesh, Cambodia, Malaysia	Nov '10
DTAC (Thailand)	Data: €6.85/day for 25MB Data: €20.39 for 75MB for 3 days Data: €45.86 for 175MB for 7 days	UK, France, Italy, Germany, Spain, Netherlands, Hong Kong, Singapore, Australia and NZ	Mar '11
Du (UAE)	“One World One Rate” – single preferential rate across the GCC Voice: €0.25 for local & incoming	GCC countries – Oman, Bahrain, Saudi Arabia, Qatar, Kuwait	Jun '09
Etisalat (Nigeria)	Voice: €0.18/minute	Benin Republic, Togo, Niger, Gabon, Central African Republic and Cote D'Ivoire	Apr '11
Etisalat (UAE)	Voice: €0.18/min Voice: €0.37/min	Arab countries Global	July '10
Idea (India)	25% discount on roaming charges	UAE, US, Singapore, UK, Thailand, China, Germany, France, Switzerland, Sri Lanka, Hong Kong and Italy	Apr '11
Kcell (Kazakhstan)	Voice: €0.24/min	Calls from 100 countries back to Kazakhstan	May '11
Bridge Alliance (Asia Pacific)	Data: €7.25/day, €19.6/3 days, €29/5 days for unlimited data roaming for postpaid customers Data: universal prepaid SIM for unlimited data roaming at	11 Asia Pacific countries for postpaid customers and 6 countries for prepaid data roaming SIM	July '11

³¹ Local currencies converted to Euros at spot rate from oanda.com

Operator	Cost ³¹	Coverage	Launch date
	€8.70/day		
Batelco (Bahrain)	Data: Local unified roaming rates at €1.15/MB	GCC countries and Spain, UK, Ireland, Czech Republic	Aug '11
Qtel (Qatar)	SmartRoamer: Voice: €0.18/min for local calls Voice: €0.37/min for calls home	GCC countries	Apr '11
Qtel (Qatar)	Shahry Passport: Voice: €0.37/min	France, Germany, Italy, Spain, Switzerland, UK, USA	Apr '11
China Mobile (China)	Voice: €0.02/min – reduction of 51%	Roaming rates were lowered for 38 countries across the world	May '11
Saudi Telecom (Saudi Arabia)	Free received calls when roaming	UK, USA, Malaysia	Jan '11
Telkomsel (Indonesia)	Data: €7/day for unlimited Data: €19/ 3 days for unlimited	Australia, Hong Kong, India, Indonesia, Korea, Macau, Malaysia, Philippines, Taiwan, and Thailand	Apr '11
Claro (Argentina)	Voice: €0.36/min for local & back home Voice: €0.07/min for received	Special prices for roaming in border countries Uruguay and Paraguay	Not disclosed
Umniah (Jordan)	Voice: €0.10/min	Arab Countries	Oct '10
Vodafone (Australia)	Standard voice calls from Singapore and New Zealand cost the standard domestic call rate plus a connection fee	Singapore, New Zealand	Not disclosed
Zain One Network (21 countries in Africa and the Middle East)	Roaming rates are equal to domestic rates in the visited country (based on the most popular rate in the visited country)	21 countries in Africa and Middle East	Multiple launches 2006-2010