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ICT market overview*

The mobile sector continues its lead

The mobile sector will continue to be a focus of interest in 2011, with increasing mobile broadband demand, new mobile devices, and growth of m-applications and services, according to the 11th edition of ITU's report *Trends in Telecommunication Reform*.

Released on 31 March, *Trends in Telecommunication Reform 2010–2011* says that ICT markets around the world are becoming more competitive in just about every segment, from international gateway services to wireless local loop (WLL) and third-generation (3G) mobile communications. In 2010, more than 93 per cent of

countries worldwide allowed competition in the provision of Internet services, and 90 per cent in the provision of mobile cellular services. A further 92 per cent have competitive 3G mobile broadband markets.

The new report confirms ITU's earlier estimates that worldwide, mobile cellular subscriptions now total over 5.3 billion. This figure also includes 940 million mobile broadband subscriptions, which are expected to reach 1 billion before mid-2011. Mobile cellular penetration in the BRIC countries (Brazil, Russian Federation, India and China), which represent more than 40 per cent of the

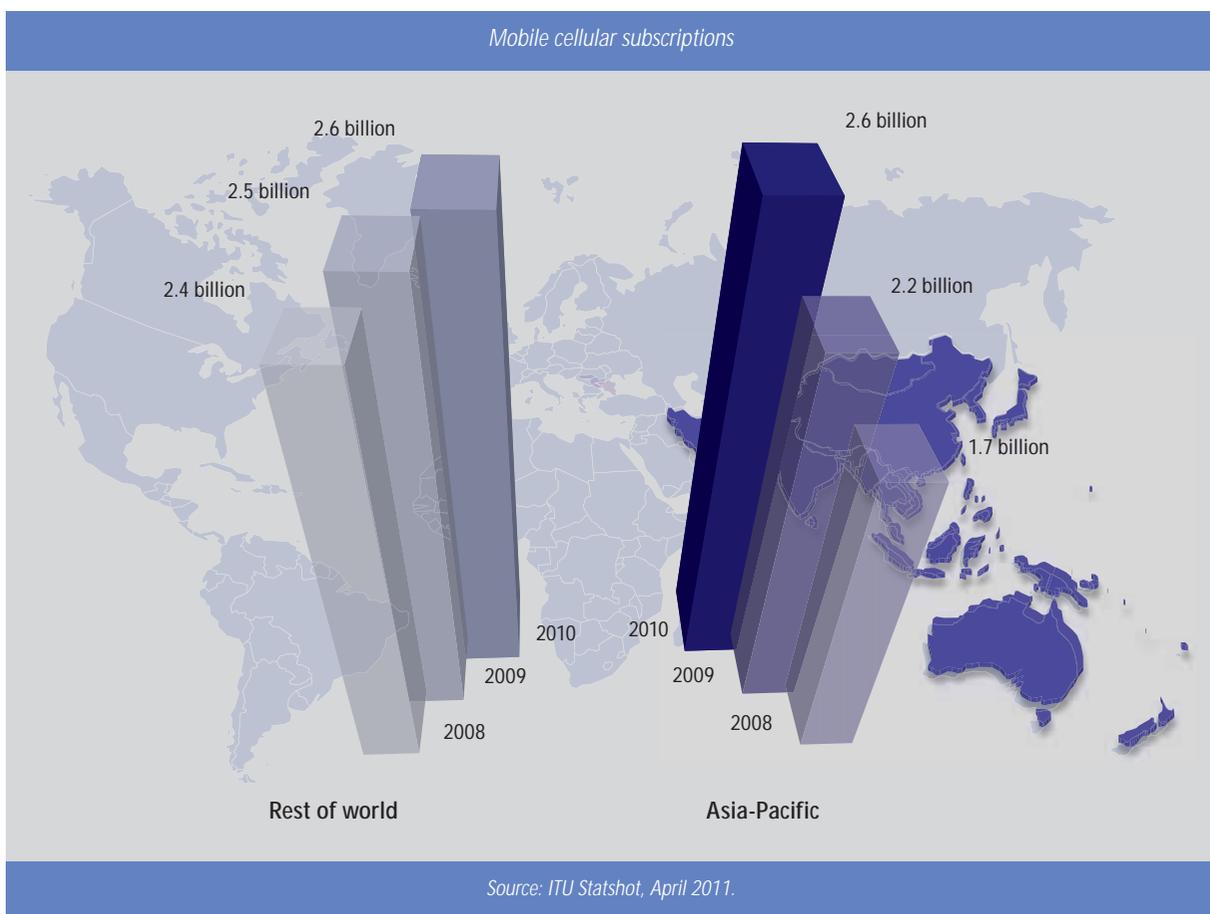
* All articles in this section (pages 4–18) are extracts adapted from *Trends in Telecommunication Reform 2010–2011: Enabling Tomorrow's Digital World*. The report was prepared by a team led by Nancy Sundberg, Youlia Lozanova and Makhtar Fall of the Regulatory and Market Environment Division of ITU's Telecommunication Development Bureau (BDT). ICT statistics used in these articles are from the ICT Data and Statistics Division of ITU/BDT, unless stated otherwise. The report can be bought from the ITU website at: www.itu.int/pub/D-REG-TTR.12-2010

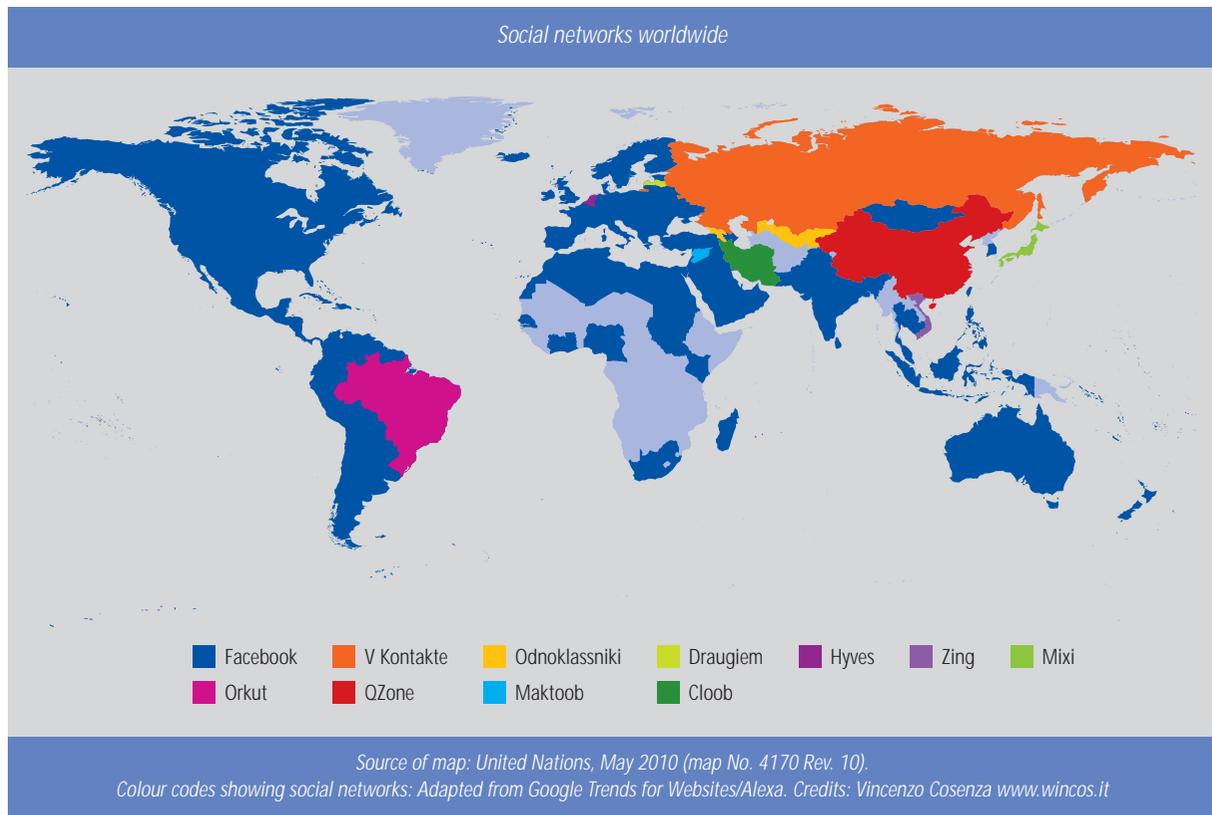
world's population, has grown from 4 per cent in 2000 to an estimated 69 per cent at the end of 2010.

In terms of number of subscriptions added between 2000 and 2010, China leads the BRIC countries with some 764 million new subscriptions. In terms of relative penetration, however, the Russian Federation has accomplished truly remarkable growth from 2 per cent to more than 164 per cent over the period. China and India have both reached a mobile penetration rate of

60 per cent, each of those countries adding around 300 million mobile subscriptions in 2010.

Most of 2010's mobile growth was in Asia-Pacific, which saw the number of mobile cellular subscriptions grow by 490 million (of 630 million globally), to reach 2.6 billion. For the first time, Asia-Pacific now has over half the world's mobile cellular subscriptions.





Social networking

Social networks are growing and attracting many users. At the end of 2010, Facebook alone counted 600 million active users, representing more than one third of Internet users worldwide. The map below underlines the low-penetration level of social network users in Africa, in line with low Internet user penetration in that region.

Forty per cent of active Facebook users access the platform through their mobile devices. Micro-blogging site Twitter now has over 200 million registered users, and 37 per cent of active Twitter users use their mobile

device to tweet. Data also show that two billion videos are watched every day on YouTube, while five billion photos are now hosted on Flickr.

Participation in social media networks, blog sites and user-generated content (such as YouTube, Flickr and Wikipedia) reflects the capacity of users and consumers to take the opportunities these applications and services offer for their professional and personal lives. These applications and services reduce time and distance barriers, and usher users into the global digital village, with ubiquitous access and always-on connectivity.

The digital generation are likely to use their smart phones, gaming consoles and tablets, rather than desktop computers, to access the Internet, social networks and online user-generated video. This will put additional pressure on mobile operators to offer high-speed any-time anywhere services.

New applications and services

Innovative services such as m-banking and mobile money services, largely based on simple text messaging (SMS), bring banking services to the unbanked, illustrating how these services can have a far-reaching impact on the ability of the rural and poorer populations in developing countries to participate in the economy. This is illustrated by the success of m-banking services and m-payments in countries such as Kenya, Pakistan and the Philippines. According to some estimates, more than 364 million low-income, unbanked people could be using mobile financial services by 2012.

Various m-applications are being developed to improve the provision of services in sectors such as agriculture, health, education, finance, employment, governance and transport. In agriculture, for example, an m-agriculture tool (mAgri) was developed in Senegal to help to make agricultural value chains more efficient.

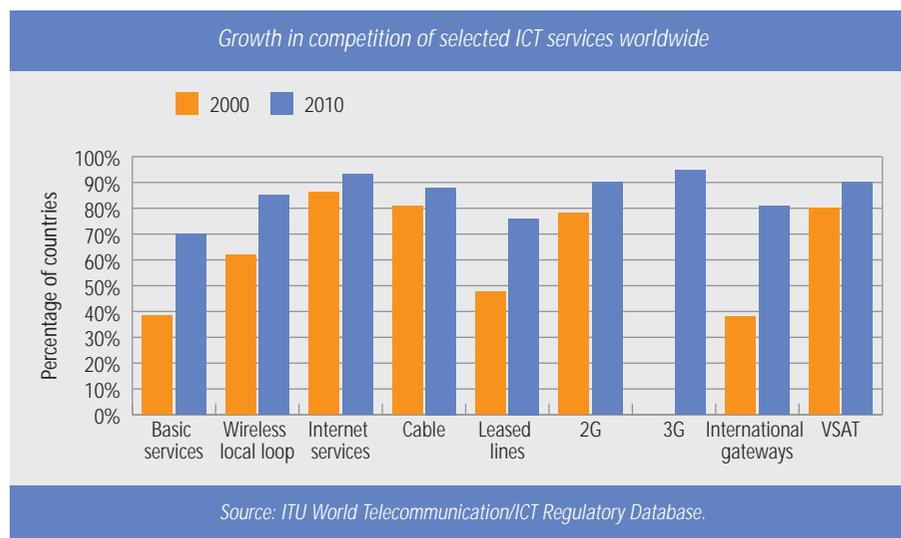
Meeting local demand and using local talent to produce content are important elements of successful m-applications. Innovation also requires an enabling regulatory environment conducive to the establishment of public-private partnerships and to attracting investors.

Fostering competition through effective regulation

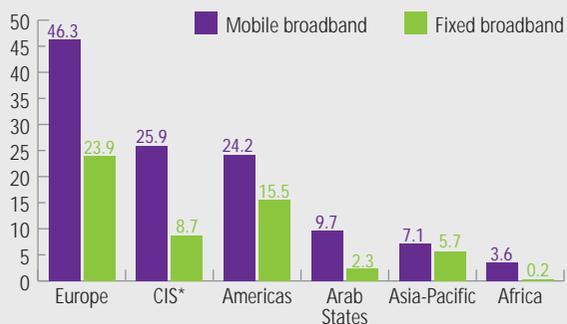
Considerable efforts have been made to foster competition in telecommunication/ICT markets. Reform of the licensing regimes in a number of countries over the past five years has contributed to creating greater

market efficiency — attracting more players to offer new services and deploy new technologies for the benefit of consumers. Countries such as, Kenya, Malaysia, Singapore, Tanzania and Uganda have simplified authorizations and reduced administrative procedures as part of their licensing reforms.

Some 70 per cent of countries worldwide



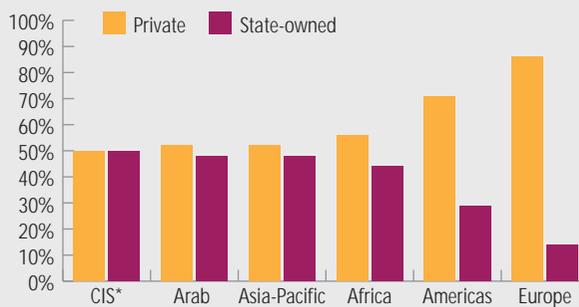
Broadband per 100 inhabitants in 2010 (estimates)



*CIS: Commonwealth of Independent States

Source: ITU World Telecommunication/ICT Indicators Database.

Status of the main fixed-line incumbent in 2010 (estimates)



*CIS: Commonwealth of Independent States

Source: ITU World Telecommunication/ICT Regulatory Database.

have introduced competition in basic fixed-line services up from 38 per cent in 2000. Nevertheless, these services still lag behind other ICT segments in terms of competitiveness. The number of fixed-telephone lines continued to decrease in 2010 in all regions except in Africa and the Commonwealth of Independent States (CIS); an estimated 1 million lines were added in each of these two regions.

International gateways are now competitive in 81 per cent of countries worldwide, compared with only 38 per cent in 2000. Competition in the provision of leased lines grew by 28 per cent in ten years to reach 76 per cent in 2010. Wireless local loop services were competitive in 85 per cent of the countries in 2010, up from 63 per cent in 2000.

The 3G market is also highly competitive. In 2010, 95 per cent of countries allowed competition in the provision of 3G services. The ongoing deployment of higher speed 3G mobile broadband networks such as WiMAX

and more recently HSPA+ and LTE systems will increase uptake of mobile broadband services worldwide.

Regulatory measures taken in selected countries will also contribute to speeding up the growth of mobile broadband penetration. Examples of such measures include: the licensing of 3G services in Cape Verde, India, Gabon, Kenya and Mexico; spectrum refarming in the United Kingdom and Finland; and planned allocation of the bands freed up by the digital dividend in countries such as Canada. These regulatory measures have been complemented at the industry level by a move towards developing next-generation 4G systems (or IMT-Advanced).

Privatization

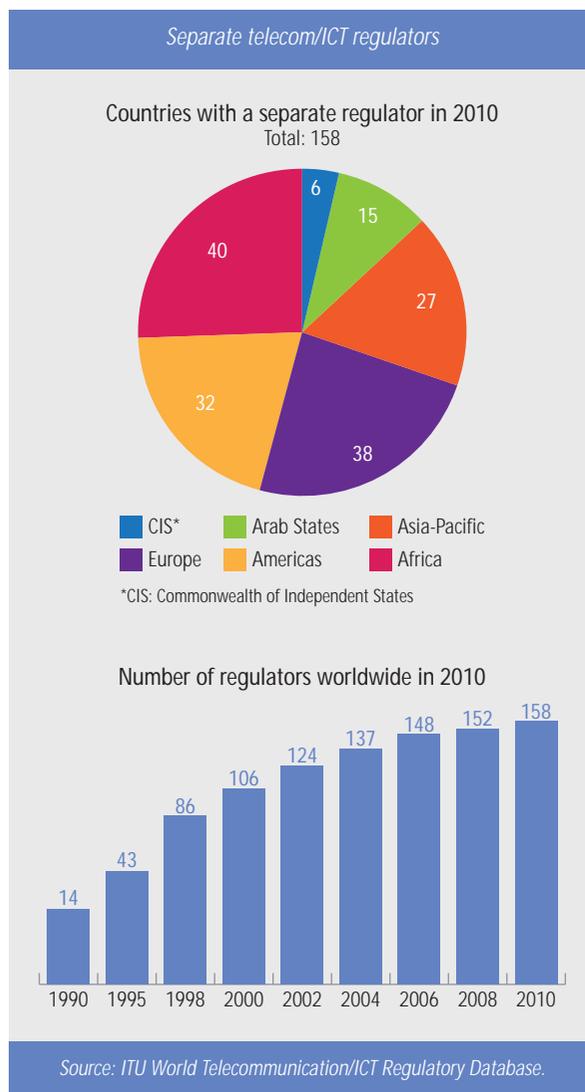
In 126 countries today, incumbent telecommunication operators are either partly or fully in the hands of private-sector owners and only 34 per cent of

incumbents remain State-owned. There are substantial differences between regions: with 86 per cent of incumbents in Europe having been fully or partially privatized; 71 per cent in the Americas; 52 per cent in the Arab States and 50 per cent in the CIS. With many markets already privatized, privatization activity has slowed over

the past few years, especially following the economic downturn.

So only a handful of privatizations were in the pipeline in 2010 in such countries as Benin, Botswana, and the Comoros. In Zambia, the government sold 75 per cent of its State-owned incumbent operator, Zambia Telecommunications (ZAMTEL), to the Libyan Lap Green Networks for USD 257 million. The government retained a 25 per cent stake in the company.

Opening up the ICT sector to foreign investment is a way of bringing more players into the market. More than three-quarters of countries worldwide have little or no restriction on foreign investment in their national ICT market.



Regulatory reform

Trends in Telecommunication Reform 2010–2011 reveals an increasingly robust yet complex regulatory landscape which has emerged in response to the huge influence ICT now have on the shape and growth of other economic sectors.

As markets become increasingly competitive, regulators have to balance the need for targeted regulation to prevent market distortion with the need to allow market forces to operate.

The pace of convergence and integration of ubiquitous networks requires policy-makers and regulators to adapt their institutional structures and mandates, and to adopt innovative regulatory tools and best practices.

At the beginning of 2011, separate regulators had been established in more than 80 per cent of countries, totalling 158 regulators worldwide, up from 106 a decade ago. The region with the highest percentage of regulators (relative to the total number of countries in

each region) is Africa with 93 per cent, followed by the Americas with 91 per cent, Europe with 88 per cent, Asia-Pacific 73 per cent, the Arab States 71 per cent and the CIS with 50 per cent.

Countries with separate regulators have adopted different institutional and organizational structures to adapt to the fast-changing ICT environment. While the main trend in most regions has been to establish a sector-specific regulator, some countries have moved towards merging pre-existing separate regulatory authorities into a converged regulator, while others have expanded the mandate of the regulator to include posts, information technology, broadcasting content, or spectrum management.

Several countries in the Americas, Europe and Africa have established multi-sector agencies, either

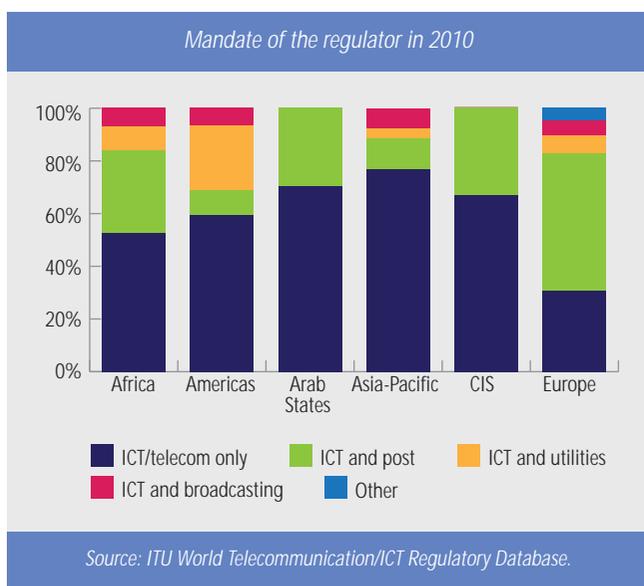
when sector reforms were initiated or after their markets reached a certain level of maturity. In these cases, countries have merged pre-existing separate regulators of public utilities to oversee, for example, the telecommunications, postal, electricity, gas and railway sectors.

In several jurisdictions regulators are now responsible for regulation beyond their traditional core activities. These traditional functions consist of: regulating access to telecommunication/ICT infrastructure and services, through licensing; managing scarce resources such as spectrum and numbering resources; dealing with interconnection issues; setting and enforcing quality of service standards; and managing universal access support programmes.

In 2010, 16 per cent of regulators had responsibility for broadcasting content, sometimes sharing that responsibility with another ministry. While Internet content is unregulated in more than 44 per cent of countries worldwide, it is within the mandate of around 13 per cent of telecommunication/ICT regulators. Information technology is included in the mandate of 30 per cent of regulators, a responsibility that is shared in 12 per cent of cases.

More than 60 countries worldwide had adopted legislation on cybersecurity by 2010. Europe has the highest percentage, with 38 per cent of countries adopting such legislation, followed by the Americas at 20 per cent and Africa at 13 per cent. The degree of involvement varies from one regulator to another, depending on national legislation.

At least 13 regulators throughout the world are involved in matters related to climate change. In Kenya, for example, licence conditions require licensees to ensure that systems do not cause environmental hazards.





Flexibility and autonomy

Regulators need flexibility to adapt to the fast-changing environment, to foster ICT development and maintain the attractiveness of their national markets. They also need flexibility to determine the internal structure of their organization, recruit skilled staff, and retain and train staff to adapt to the needs of their mandates.

With regard to decision-making, 86 per cent of regulators worldwide reported being autonomous. Decisions taken by the remaining 14 per cent of regulators are generally approved by the sector ministry, and sometimes also by the Head of State or other governmental body. Having more than one source of funding and the ability to manage those funds reinforces regulators autonomy *vis-à-vis* government and industry.

The key role of broadband

The promotion of broadband access is a key policy and regulatory issue today.

Trends in Telecommunication Reform 2010–2011 contends that broadband access is no longer a luxury, but a necessity that will be crucial to every country's economic, social, and political growth. It highlights the need for proactive national broadband planning by every government to help achieve the United Nations Millennium Development Goals by 2015.

Already, some 70 governments have adopted a national policy, strategy or plan to promote broadband. Several developed countries have done so as part of their economic recovery plans in the wake of the global economic downturn to ensure the deployment of high-cost broadband networks and to stimulate employment. Other countries have promoted broadband as part of their broader strategy to develop the information society and to extend universal access to ICT. One-fifth of ITU Member States have included broadband as part of universal access policy.