National Telecom Regulatory Authority

**Arab Republic of Egypt
Ministry of Communications
and Information Technology**

eMISR

National Broadband Plan

Phase 1

A Framework for Broadband Development

Egypt 2011

Executive Summary

ICT has been a part of Egypt's national development strategy for the past decade, and the Government has been developing a framework to move the country into the information age, through promoting partnerships of public, private, civil society and multilateral stakeholders. However, the reform wave has stimulated the Egyptian government to speed up the deployment of services and enhance the current broadband infrastructure. The tremendous demand for more bandwidth coupled with consumers' appetite for video-content, news, and multi-media services have led the NTRA to introduce a new ICT strategy for broadband: the "eMisr National Broadband Plan".

Since 2002, national initiatives allowed manufacturers to provide PCs at affordable prices and with flexible payment terms to schools and households. In 2004 the government launched a Broadband Initiative which increased the number of broadband connections ten folds within four years and brought 24 Mbps ADSL2+ access to residential households. However, despite its successes, Egypt still lags behind international standards. Mobile and Internet penetration rates are relatively low in comparison with the rest of the world. By the end of 2011, the number of ADSL subscribers in Egypt will amount to 1.8 million subscribers and the number of mobile broadband subscribers will amount to 2.5 million subscribers.

Policy makers in Egypt consider broadband as the engine for development, especially after the recent political and social reform waves. This vision is in accordance with the increasing dependence of citizens' on broadband. On the other hand, challenges that face the Egyptian society on an economic level require adopting a strategy across different sectors that is mainly dependent on ICT. Many sectors of the society will require both sufficient broadband infrastructure and the appropriate applications, to implement national initiatives and projects, such as: e-education, e-health, e-government, e-civic engagement, ICT in business, e-commerce, and e-content.

eMisr is a National Broadband Plan that proposes different strategic directives to meet Egypt's broadband service needs. To develop eMisr, NTRA has conducted studies, consultations, workshops and meetings with relevant stakeholders. A joint study performed by NTRA and Qualcomm addressed consumers' affordability for broadband services in Egypt. Another study with Detecon built a model to forecast the broadband market growth and to investigate stimulation effects on the broadband market. World Bank, under a signed agreement with MCIT and NTRA, has undergone two studies; one to assess strategic options taken by international decision makers to allow for a proper broadband diffusion, and another to build a model assessing the viability of different broadband technologies and estimating the macroeconomic impact of broadband diffusion in Egypt.

The key strategic objectives of the eMisr Plan aim to: 1) Recognize Egypt as a front-runner in digital communications, 2) Increase job opportunities, 3) Stimulate economic growth nationwide and foster social cohesion, 4) Harmonize with other

sectors in the Government to improve the quality of life for all citizens, and 5) Avoid an increased digital divide within Egypt.

In order to achieve these objectives, multi-dimensional targets need to be attained. The first set of targets addresses availability and focuses on expanding the geographical coverage of the broadband infrastructure. This will allow citizens in coverage areas to subscribe to broadband services whenever needed. The second set of targets focuses on penetration and aims to increase the number of the broadband subscribers base. This is vital to reach the required critical mass that will lead to a sustainable growth cycle. Social targets are the third set of targets that focus on providing citizens in rural and non-economically viable areas with means to access broadband services. This aims at minimizing the digital divide within Egypt.

Targets		Short Term (2015)	Long Term (2021)
Availability Targets	Fixed	75% of households have access to Broadband (2 Mbps)	90% of households have access to Broadband (25 Mbps)
	Mobile	98% of population with 3G coverage	90% of population with 4G/LTE coverage
Penetration Targets	Fixed	4.5 million (~22%) households subscribed to broadband services	9 million (~40%) households subscribed to broadband services
	Mobile	8 million (~10%) citizens subscribed to mobile broadband services	14 million (~15%) citizens subscribed to mobile broadband services
National/Social Targets		• 50% of Egyptian communities connected to 25 Mbps • 50% of 3rd level Egyptian administrative localities (Sheyakha and Village) served with at least one Public Access Point with 25 Mbps	• 100% of Egyptian communities connected to 25 Mbps • Each 3rd level Egyptian administrative locality (Sheyakha and Village) served with at least one Public Access Point with 25 Mbps

Analyzing the broadband ecosystem in Egypt, it is clear that many constraints, if not addressed properly, will prevent the sector from meeting those national targets. These constraints can be divided into supply and demand constraints. Supply constraints have a direct effect that reduces the diffusion of broadband services. They include: 1) Limited effective competition in fixed broadband, 2) Service

availability, 3) Illegal line sharing, and 4) Right-of-way and civil work. Demand constraints similarly limit the penetration of broadband services. They include: 1) Service affordability and Customer Premises Equipment (CPE) penetration, 2) Illiteracy, 3) E-Literacy, and 4) Local content availability.

According to the eMisr National Broadband Plan, the projected short-term subscriber numbers for broadband services will surpass 12.5 million subscribers. Annual revenues from broadband services in Egypt are projected to amount to EGP 17.2 billion (USD 2.88 billion) in 2015. The estimated investment required over the 4 year forecast period - to achieve the set availability, penetration, and social targets - are projected to be in the range of EGP ~ 14.4 billion - 23.6 billion (USD ~ 2.40 billion - 3.95 billion).

It is worth mentioning though that these estimated figures represent the total investment needed by the sector, and will depend on the infrastructure deployment/leasing options. In addition to private sector investment, government stimulation may be needed to encourage investment in areas where deploying broadband services may not be economically viable. To encourage investment in such areas, it is assumed that government stimulation of up to 20% of the total needed investment would be required. On the other hand, and in order to stimulate the demand needed for a successful broadband diffusion, an investment in the range of EGP 2.1 billion (USD 350 million) will be needed, as per the Ministry of Communications and Information Technology, over four years.

This overall investment needed to develop the broadband market, is expected to have a positive impact on the Egyptian economy in terms of productivity (GDP) and job creation. It is estimated that by achieving short term targets alone, broadband will create 6,650 to 17,500 direct jobs on average per year, and will result in an incremental cumulative contribution to GDP of EGP 24.9 billion (USD 4.17 billion). There is also a spillover effect on the employment in other sectors, but this depends on the political harmonization among other sectors in the country.

The eMisr National Broadband Plan is a two staged plan to address the development of the broadband market in Egypt. Its first phase, "A Framework for Broadband Development", proposes a list of strategic options and recommendations to achieve set targets by addressing supply and demand constraints. As a second phase, a "Broadband Action Plan", is to follow in Q2 2012 and will be the execution arm of eMisr. It will detail, based on eMisr, a list of action items with timelines and responsibilities needed for the execution of the plan. This is expected to be done, through different task forces and in collaboration with all stakeholders of the Egyptian broadband industry. The plan is envisaged to create a robust national broadband ecosystem to meet Egypt's needs for 21st century.