

# Telecommunications Policy for the Republic of Namibia 2009

18 February 2009

#### **Foreword**

The adoption and exploitation of ICT has been instrumental to the creation of sustainable growth and development by countries in the last fifty years. The global economy is currently dependent and shaped by the benefits arising from ICT. From the perspective of a developing country, ICT is both a prerequisite for economic progress and a major potential contributor to economic progress. It contributes to limitless possibilities – with few boundaries - for all sectors of society (public sector, civil society and industry). By embracing the development of ICT, Namibians will benefit through:

- a. The access and availability of information that will assist them in their daily lives
- b. Increased competitiveness of business and commerce in the global market place
- c. The establishment of an environment conducive to the development of Namibian-based ICT access- and service providers that are competitive players on international markets, and in so doing, create opportunities for employment and economic diversification.

This document provides a Telecommunications Policy (the 'Policy') for Namibia. The Policy should be read in conjunction with two other policies, namely Information Technology and Broadcasting. These three policies have also been combined into this overarching policy document that is in line with national, regional, continental and global developments in the ICT sector.

In developing this Policy, the point of departure has been to facilitate the growth of ICT in Namibia. In so doing, the Policy has been developed after extensive consultation with stakeholders and in depth research into international trends. The Policy is aligned to international and regional declarations and protocols to which Namibia is a signatory.

The Namibian Government's Vision 2030 document stipulates that ICT must be the most important sector in the economic development of the country by 2030. Core to the achievement of this Vision is a demand driven need to transform Namibia into a knowledge based economy. This Policy supports Vision 2030 and national development targets. The aim of this Policy is to provide Namibia with a clear vision and policy direction that will drive national development in the years ahead. The document also sets out a strategic implementation plan with short, medium and long term actions to ensure the growth of ICTs in Namibia.

The establishment of an environment conducive to the growth of telecommunications and converged Information and Communication Technology (ICT) in Namibia is a national imperative. Namibia has a large unmet demand for ICT which will more quickly satisfied by the deregulation and liberalisation of the market as part of a managed programme of reform. The transition to a liberalised ICT environment (with a commensurate increase in institutional capacity to develop, regulate and implement policy) is also paramount if broader national development goals and the growth in the Namibian ICT industry is to be

achieved. The recent establishment of a single Ministry of Information and Communication Technology (in line with international trends) is an important first step on this journey, but much work remains.

This Policy builds on the previous Information, Communication and Technology Policy for the Republic of Namibia (2004). The new Communications Bill, the new Electronic Communications Transaction Bill and legislation on Copyright and Competition give effect to major parts of this Policy.

# Honourable Joel Kaapanda

Minister of I&CT

February 2009

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# 1 Introduction

This document provides a Telecommunications Policy (the 'Policy') for Namibia. The Policy should be read in conjunction with two other policies, namely Information Technology and Broadcasting. These three policies will be combined into an overarching policy document that is in line with national, regional, continental and global developments in the information technology and a wider, converged, sector.

The term Telecommunications is increasingly seen as part of the converged Information and Communications Technology (ICT) sector. Telecommunications is a general term for a vast array of technologies that exchange information over significant distances by electronic means, but its sectoral lines with information technology have become blurred as society has moved to an increasingly global and networked world.

The telecommunications industry has an important role to play in the attainment of Namibia's socioeconomic developmental goals.

- a. Affordable, efficient and high quality services. A broad, reliable and efficient supply of telecommunications services in Namibia is promoted. These services should be of international standards at the lowest, commercially reasonable price which allows the operator and / or service provider to make a commercially acceptable return on its investment
- b. Universal access. Telecommunications should provide universal access to advanced information services to achieve the Namibian Government's goals
- c. Regional balance. Telecommunications should play an important part in integrating all regions into the socio and economic development of Namibia.

The Namibian Government's Vision 2030 stipulates that by 2030 Namibia should be a knowledge based economy. This Policy is framed in the context of Vision 2030 and National Development Plans. The aim of this Policy is to provide Namibia with clear policy guidelines for development in the years ahead.

# 2 Purpose of document

The purpose of this document is to set out the Telecommunications Policy and the Regulatory Framework for the Republic of Namibia.

#### 3 Definition

Telecommunications is defined as a communication process that allows the transmission of information from a sender to a receiver by means of an electromagnetic or light wave medium. Telecommunications include telephony technologies (mobile phones, land lines, satellite phones and IP telephony Protocol), radio, television and networks.

Information and Communications Technology (ICT) entails all technologies that store, process and transmit information and that allow people or devices to communicate with each other. ICT is the result of a rapid evolution of new technologies and innovative new applications, and the convergence between computing, communications and broadcasting. Three major innovations, namely the move of electronic industries to digital technology, the large scale growth in computers and the launching of the Internet, interact to produce ICT convergence which has become an important pillar in the establishment of a knowledge driven economy and an information society. The Internet plays a pivotal part in the convergence of ICT: it transmits information via the information highway, effectively combining information technology and communications technology.

The rapid development of the ICT industry has yielded many changes in technology and human interaction. Today, ICT plays an unparalleled important part in all aspects of the Namibian society and the economy.

# 4 ICT in Namibia – a national imperative

The Government of Namibia recognises the need to be part of the global information society. It further recognises the important role of ICT in economic growth. ICT in Namibia contributes to five important economic roles:

- a. Economic growth
- b. Industrial development
- c. Poverty eradication
- d. Equal opportunity
- e. Regional coordination.

The growth of the ICT sector in Namibia is a national imperative. Longer term growth can only be achieved through a demand driven approach based on education and training, supported by an environment conducive to the development and growth of the local industry.

# 5 Establishment of an enabling framework for telecommunications development in Namibia

The establishment of an environment conducive to the growth of telecommunications in Namibia is a national imperative. Namibia has a large unmet demand for telecommunication services, these demands might be more quickly satisfied by the re - regulation and liberalisation of the market as part of a managed programme of reform - which will include programmes to minimise anti – competitive and dominant operator advantages, create level playing fields for new entrants into defined sectors of the telecommunications market and reduced Government ownership in the sector.

# 5.1 Guiding principles

Namibia subscribes to a liberalised telecommunications sector. In fulfilling its role, telecommunications in Namibia is characterised by:

- a. Increased access particularly to the Internet
- b. Improved IT literacy and skills development
- c. Competition and open markets
- d. Independent regulation of the sector
- e. Protected rights of consumers
- f. Fair and transparent industry practices with the aim to grow the ICT sector.

#### 5.2 Roles and structures within the ICT sector

# 5.2.1 Role and resposibilities of Government

Government (via the Ministry of Information and Communication Technology) assumes responsibility for overall policy functions and establishes the legal framework for the ICT industry.

The roles and responsibilities of Government as far as the telecommunications sector is concerned are as follows:

- a. Government (via the Ministry of Information and Communication Technology) assumes responsibility for overall policy functions and establishes the legal framework for the ICT sector
- b. The Minister of I&CT may impose specific conditions on the telecommunications sector
- c. The Minister of I&CT is responsible for all telecommunications related legislation and provides inputs into other legislation that may affect the telecommunications sector

- d. The Ministry of I&CT is responsible for Government ICT policy development. This includes all e government and other initiatives to provide citizen's access to Government. In so doing, the Ministry of I&CT facilitates and coordinates all e governance policy and strategy development in the Namibian Government. The Ministry of ICT prescribes Government's internal ICT policy and practices
- e. The Ministry of I&CT is co responsible with individual line Ministries for line Ministry specific ICT policy development
- f. The Minister of I&CT may appoint a Strategic ICT Advisory Council and / or Advisor on ICT Policy related matters
- g. An Act of Parliament establishes an autonomous Regulatory Authority. The Minister of I&CT appoints the Board of the Regulatory Authority
- h. ICT Policy making is separated from regulatory and shareholding functions and responsibilities within the Ministry of ICT. The ICT Policy Unit's responsibilities are as follows:
  - i. Research Policy development trends global and regional
  - ii. Obtain stakeholder requirements
  - iii. Translate NDPs into ICT Policy requirements
  - iv. Draft policy and regulations (Information, Media, IT, Telecommunications, Broadcasting, Postal, Convergence)
  - v. Consult all stakeholders
  - vi. Liaise with and brief the legal drafters
  - vii. Produce final draft / amendment for Minister's approval
- i. Monitor current policy, legislation and regulations (i.e. liaison with the Regulator and the operators).

# 5.2.2 Role of the Regulatory Authority

The Regulatory Authority is juristic person and operates independently from the Ministry of I&CT and is governed by a Board of Commissioners. The Board is appointed in accordance with the State Owned Enterprises Governance Act (2006).

The responsibilities of the Regulatory Authority to the Ministry of I&CT are:

- a. The implementation of Government Policy notified by the Minister of I&CT
- b. Provide advice and makes policy recommendations to the Minister of I&CT
- c. Advise the Minister of I&CT on telecommunications matters
- d. Assist the Ministry in negotiations with international bodies and operators
- e. Represent Government at international meetings

f. Report to the Parliament through the Minister of I&CT on all activities in the sector, including charges paid by consumers.

The specific responsibilities of the Regulatory Authority are:

- Regulate and direct the telecommunications sector
- b. Ensure compliance with legislation and regulations directives
- c. Grant, renew, amend, transfer and suspend or revoke licences
- d. Ensure operators are technically, financially and managerially capable of carrying out services specified in their licences
- e. Protect consumers and purchasers in respect of prices, quality, variety of services and telecommunications apparatus supplied
- f. Promote efficient competition amongst service providers and operators
- g. Attract foreign direct investment (FDI)
- h. Manage all spectrum in Namibia
- i. Administer the radio frequency spectrum (management and allocation)
- j. Ensure telecommunications services are operated in a manner best suited to the economic and social development of the country
- k. Lay down procedures for ensuring safety and quality of services
- I. Review and respond to consumer complaints
- m. Ensure compliance to regulatory measures
- n. Govern interconnection arrangements between operators upon application by either operator upon failure of the operators to agree an interconnection agreement
- Implement a transparent and fair pricing regime that facilitates competition in the market (during
  the initial stages of market liberalisation or to control / prevent anti competitive actions or
  omissions by an operator)
- p. Manages the entire numbering regime
- q. Establish advisory bodies
- r. Manage the Universal Service Fund (USF)
- s. Monitors sector performance and supervises compliance with rules, regulations and other conditions imposed on players in the industry.

The Regulatory Authority acts in a consistent manner and creates a framework that provides stability, consistency and visibility. It further introduces regulatory innovations aimed at maintaining the right balance between stability and innovation.

The Regulatory Authority is primarily funded through licence fees. Fees from other sources comprise spectrum auctions and fines.

#### 5.2.3 Roles of industry

Telecommunications firms are responsible for building and maintaining telecommunications systems and infrastructure, and providing efficient and affordable telecommunications services to Namibians.

The telecommunications industry assists the Regulatory Authority by participating in regulatory processes and the fulfilment of the objectives of the Regulatory Authority.

#### 5.2.4 Role of consumers

Consumers are users of the services and decide which products and services are required.

#### 5.2.5 Market structure

The Namibian telecommunications market structure is subject to market and competitive forces.

- a. The telecommunications market is moving towards liberalisation
- b. The liberalisation process for the telecommunications industry is managed by the Ministry of ICT
- c. Government may issue Policy guidelines where required to assist with broader industry growth
- d. Protection from dominant service providers and operators will be provided
- e. A stable regulatory environment that is conducive to investment will be created
- f. Operators are incentivised toward infrastructure development in under serviced areas
- g. A mandatory and mutual interconnection obligation is introduced.

# 5.2.6 Ownership structures

Competition is harnessed by diluting Government shareholding in telecommunications enterprises.

# 5.3 Policies for the telecommunications industry

# 5.3.1 Competition

# Policy statement -1:

The Government will create an equitable, fair, just and competitive environment based on the principles of the free market and open unfettered access to products and services.

#### Justification:

Competition instils a sprit of innovation and excellence in service.

### Policy statement -2:

Competition is further harnessed by diluting Government shareholding in telecommunications State Owned Enterprises (SOEs).

#### Justification:

The dilution of Government's shareholding in telecommunications SOEs will benefit Namibia through increased market efficiency and the ability to attract international investors and technology partners. So long as Government continues with shareholding participation in telecommunications SOEs, Government needs to separate its policy development and regulatory roles from its role to maximise shareholder value. Commercialised SOEs the ICT sector are managed separately from Government's Policy and Regulatory responsibilities.

# 5.3.2 Consumer protection and standards

#### Policy statement:

The Government promotes efficient and reliable services that conform to international technical and quality standards.

# Justification:

The Government should prescribe quality of service and technical standards in keeping with global best practices which shall be met by all service providers.

# 5.3.3 Regulatory framework

#### Policy statement -1:

The regulatory framework will focus on re – regulation, i.e. tight regulations where required combined with a generally less prescriptive and efficient framework avoiding over regulation and creating administrative burdens. The regulations should be easy and flexible to implement, minimise legal disputes and cater for a competent Regulatory Authority that can practically implement the policies and regulations.

# Justification:

The regulatory framework should assist in the reform of the telecommunications sector through re – regulation. However, it should not stifle but encourage innovation, creativity and convergence.

# 5.3.4 Ownership and foreign participation

#### Policy statement -1:

The Namibian Government encourages foreign participation in the telecommunications sector. The Strategic ICT Advisory Council and / or Advisor on ICT Policy related matters will advise the Minister of I&CT on minimum local shareholding participation in the sector.

#### Justification:

Telecommunications is a capital intensive industry and requires large investments which in many cases can be provided by foreign companies whilst also assisting with technology and skills transfer.

#### Policy statement -2:

The Government actively seeks to facilitate the acquisition of ICT skills from outside Namibia. The Government will relax work permit restrictions for foreign ICT specialists.

#### Justification:

ICT is a global industry, characterised by a skills scarcity. ICT skills are further mobile. Namibia needs to reduce any barriers to its ability to attract foreign skills into this market if the ICT industry is to develop.

# 6 Licensing regime

# Policy statement -1:

All existing telecommunications operators will henceforth fall under the new licensing regime.

#### Policy statement -2:

The Government is committed to move towards a service and technology neutral licensing approach. In a converged ICT environment, the Regulatory Authority will issue licenses for Electronic Communications Services (Telecommunications and Broadcasting) and Electronic Communications Network Services (Networks and Facilities).

# Justification:

The current licences issued by the Regulatory Authority are service specific as operators are licensed to provide either mobile or fixed telephony. The convergence of telecommunications and information technology require a new licensing structure. It is foreseen that integrated network platforms, deploying the most efficient advanced technologies, will carry all forms of communication, including fixed and

mobile voice, data and moving pictures, originating from many different providers. A service and technology neutral approach is now required and necessitates a revised structure that will not constrain the efficient development of converged telecommunications services.

The migration to a service neutral licensing environment is required in order to accommodate technological convergence and promote effective competition. The new licensing structure needs to embody a broader, less prescriptive approach to telecommunications licensing. This approach should seek to ensure that the telecommunications market continues to develop satisfactorily to meet the communications needs of users and the economy, whilst also allowing maximum freedom for commercial management in the industry to achieve this result in the most efficient way possible.

# 7 Policies for telecommunications

# 7.1 Interconnection and facilities leasing

#### 7.1.1 Interconnection

#### Policy statement -1:

Individual licensees must allow any other licensee to interconnect its services and network with that of the individual licensee unless such a request is technically or financially infeasible. Interconnection charges must be such to ensure a fair, transparent and pro - competitive access regime.

### Policy statement -2:

The party providing interconnection and / or facility leasing must provide services that are sufficiently unbundled.

# Policy statement -3:

The Regulatory Authority may prescribe benchmark charges for interconnection. These charges should be determined in accordance with international benchmarks on interconnection. A carrier must charge the benchmark fees prescribed unless it can prove to the Regulator that its forward - looking incremental costs will exceed the prescribed benchmark fees.

# Justification:

Interconnection creates open network access. Any commercial network should be fully accessible to any other operator in a non discriminatory manner, whilst protecting privacy of subscribers and databases.

# 7.1.2 Facility sharing, co-location and rights of way

#### Policy statement -1:

Facility and network licensees, in the interests of making efficient use of facilities or networks, must upon request lease facilities (for example poles, ducts) to other licensed network operators. The rates charged must be fair and just.

# Policy statement -2:

Shared access is required from all facility licensees unless such a request is technically or financially infeasible. Facility licensees shall not unreasonably obstruct network licensees from the construction of networks.

#### Policy statement -3:

Facility licensees must obtain rights of way, servitudes and / or way leaves to dig trenches or plant poles for cable systems and place facility infrastructure over land owned by another.

#### Policy statement -4:

The Government promotes the utilisation of all telecommunications sites and backbone networks in the development of the telecommunications sector in Namibia. Broadband over Power Lines (BPL) is actively encouraged where technically feasible.

#### Justification:

Sharing of infrastructure reduces capital and operating expenditures, and introduces long term efficiencies, affordable access to national and international broadband capacity, and open access to international capacity and international gateways.

# 7.2 Numbering

#### Policy statement -1:

The Regulatory Authority must review the numbering plan in the interest of making more numbers available to duly licensed operators. The numbering plan must allocate numbers in a fair and efficient manner. The numbering plan must make provision for number portability.

#### Policy statement -2:

An end user has the right to keep the same telephone number no matter what service provider the end user chooses to obtain services from within the Publicly Available Telephony Service (PATS).

#### Policy statement - 3:

The Regulatory Authority is required to introduce a numbering regime that:

- Increases consumer choice and competition
- Supports international standards.

#### 7.3 Universal service

#### Policy statement -1:

All telecommunications providers are required to contribute to the provision of universal service to achieve the Namibian Government's developmental goals. A minimum set of services should be made available by licensees. Other contributions, whether financial or not, may also be required from licensees.

#### Justification:

Market forces alone will not satisfy Government's social development ambitions and achievement of all the goals for the telecommunications industry. Liberalisation of the market and introduction of competition will lead to uneven supply of telecommunications services among different regions of the country. In order to spread the benefits of communication widely and reduce the number of individuals excluded from at least minimum access because of low incomes or that they happen to live in areas which from a telecommunications point of view are regarded as commercially non - viable, the State has to intervene. Licence conditions imposed on operators and service providers may to some extent rectify the imbalances, but given the scope of investments needed to achieve universal services, Government needs to create alternative ways to effect desirable but commercially non - viable investments.

# Policy statement - 2:

The Government will establish a Universal Service Fund (USF) to fund the provision of services to unprofitable areas. The USF will be funded by a special levy on all telecommunications licensees. The USF will be administered by the Regulatory Authority who will promote universal service throughout areas of need in Namibia; promote and support schemes which themselves promote and support universal service in Namibia; make recommendations to the Minister of I&CT in relation to sector policy on universal service; conduct research into the international and regional development of electronic communications; set and evaluate annually the achievement of universal service goals in accordance with the funding policy; and advise the Regulatory Authority on any matter related to universal service.

All licensed carriers can receive money from the USF if the carrier offers the universal services.

# Policy statement - 3:

Operators are encouraged to roll out services to high cost areas and qualifying public institutions such as healthcare, educational centres (for example schools, libraries), Multi - Purpose Regional Community Parks and information kiosks.

#### Policy statement - 4:

The Government leads initiatives to increase broadband penetration to provide Internet access in Namibia. The regulatory framework must provide a licensing mechanism that will expand broadband access in underserved and marginalised areas.

#### Justification:

The deregulation of the telecommunications market requires an incentive to operators to provide un - economic services to remote and low density areas inhabited by low per capita income communities.

Increased broadband penetration and Internet access support the Namibian Government's initiatives in e - government, e - learning, e - commerce and other electronic services.

# 8 Internet

# Policy statement -1:

The Government aims to stimulate the market for bundled personal computer and telecommunications services to increase uptake through access to funds from the USF. The aim of this Policy is to provide these services to underserved community projects, Multi – Purpose Community Centres, schools, Community Learning Development Centres and similar institutions or access points (and not to individuals personally).

#### Policy statement -2:

Government promotes the mass market roll out of Internet services, through a price review of the pricing components.

# Justification:

The increased access and consequent use of the Internet is imperative if Namibia is to realise its vision to become a knowledge based society.

# 9 IP telephony

#### Policy statement -1:

Government recognises IP telephonically (e.g. VoIP) as a complementary service to public service telephony. In a technology neutral regulatory environment, the Government regards public IP telephonically as equivalent to fixed line or mobile and will regulate it as such. In so doing, a differentiation between private and public forms of IP telephonically will be made.

#### Policy statement -2:

An IP telephony distinction is made between technology that transports information and a specific service that sells voice.

# Justification:

An increasing amount of voice traffic is transmitted through IP networks and needs to be regulated.

Government recognises that IP telephonically has implications on telecommunications prices and universal service obligations.

#### 10 International bandwidth

#### Policy statement -1:

The Government creates a market structure that facilitates the reduction of international bandwidth prices through the establishment of competition in the telecommunications sector.

#### Justification:

Increased international bandwidth and reduced rates are national imperatives. Emerging technologies which offer end users access to a variety of networks, rely on much cheaper bandwidth and make available a wide range of services.

# 11 Development of the telecommunications industry

# 11.1 Government funding and incentives

# Policy statement -1:

The Government will assist with the funding of ICT projects and programmes that will contribute to ICT access, skills development, international bandwidth and local content development.

The Government will stimulate the development of the ICT industry to establish ICT Centres of Excellence at centres of further learning. Where possible, Government will form partnerships with industry to develop ICT skills in Namibia.

The Government will provide tax incentives for ICT skills development by the private sector.

# Justification:

The development of ICT related skills to contribute to the development of the ICT industry is a national imperative in building this sector.

# 12 Telecommunications policy implementation

The Namibian Telecommunications Policy implementation process will be guided, among others by the following considerations, which are essential for success:

- a. Implementation of this Policy shall be guided by principles of good governance such as transparency, accountability, indigenous knowledge, service delivery to the underserved, rule of law, right to information as enshrined in the Constitution.
- b. The Government will harmonise all legal frameworks in Namibia to effect this Policy and strengthen the organs of State to execute this Policy.
- c. The Government aims to utilise Public Private Partnerships (PPPs) in the implementation of the Telecommunications Policy, especially in matters and projects of national character and importance.
   It is particularly important for PPP initiatives to provide, support and use the information infrastructure, to encourage the deployment and use of ICTs within the economy and society.
- d. Government will take leadership in facilitating the development and mobilising investment required for the national telecommunications infrastructure as well as the implementation of the Telecommunications Policy.
- e. The Telecommunications Policy will be accompanied by legislation passed to support effective separation of powers for policy formulation and guidance, ensure transparent and effective regulatory functions based on convergence principles and establish institutional mechanisms for policy implementation.
- f. Telecommunications Policy implementation will be closely aligned with other initiatives as set out in National Development Plan 3.
- g. Government will ensure the existence of effective competition legislation and the establishment of a Competition Commission in Namibia.
- h. Provision should be made for the development and upgrading of supporting infrastructure such as roads, electric power and water / sanitation as complimentary services to the successful ICT penetration in Namibia.

- i. Government will establish coordination mechanisms at different levels to allow integration and ensure sustainability of ICT programmes and projects.
- j. All communities should work with Government and the private sector to ensure the universal access and telecommunications skills development and / or transfer.

# 13 Review of this Telecommunications Policy

Given the dynamic nature of the Information technology sector, it is important to ensure that the Policy framework remains relevant and adequately addresses all issues. The Ministry of I&CT will establish mechanisms for the collection of relevant information from operators and the comprehensive research to identify relevant issues, trends and other matters that may affect the sector. In addition, the Ministry will establish a formal mechanism for the periodic reviews of this Policy, taking into consideration the information collected, the research done and feedback from key stakeholders.

# 14 Glossary

**Co-location** - Open access to international capacity, international gateways, other facilities or networks by placing multiple entities within a single location.

**Communications** - Any emission, transmission or reception of sound, pictures, text or any other information by wire, radio waves, optical media, electromagnetic systems, telecommunications networks or any other means of a like nature and includes both telecommunications and broadcasting.

**Communications network** - The transmission systems at large and, where appropriate, switching and routing equipment and other resources which permit the conveyance of signals by wire, by radio, by optical or by other electromagnetic means, including satellite networks, fixed and mobile terrestrial networks, electricity cable systems, to the extent that they are used for the purpose of transmitting signals, networks used for radio and television broadcasting, and cable television networks, irrespective of the type of information conveyed.

**Convergence** – The integration of industries that up to now have largely operated separately from one another, but meshing along a specific value chain or bundling from different services at the applications end. Convergence is driven by the digitisation of the presentation, transmission, storage, processing and creation of information.

**Dominance** – A position of economic strength affording to an undertaking, either individually or jointly with others, the power to behave to an appreciable extent independently of competitors and end-users.

**Effective competition** - The absence of an operator that holds a dominant position in a telecommunications market.

**Ex-ante regulation** - Is anticipatory intervention. Ex ante regulation is mainly concerned with market structure that is the number of firms and level of market concentration, entry conditions, and the degree of product differentiation. With ex-ante regulations, a dominant provider needs to get approval. *Exante* regulation uses government-specified controls to:

- Prevent socially undesirable actions or outcomes in markets, or
- Direct market activity towards socially desirable ends.

**Ex-post regulation -** With ex-post regulation the abusive behaviour in a generally competitive market environment is controlled. Here the operator does not need approval of any measures, but they can be prohibited if they should constitute an abusive behaviour.

Facility sharing – Allowing other service providers to share the telecommunications facilities of another.

**Fixed line telephone service** – The commercial provision to the public of a service by a carrier consisting of the transport and switching of speech in real time over its network, enabling any user to use equipment connected to termination points of that network so as to communicate with another termination point, or any termination point on a network interconnected with a network of the carrier concerned.

Incumbent - Term used to describe existing often first established as regulated monopolies.

**Industry** – A segment of the economy concerned with the production of goods and services.

**Ineffective competition -** The leveraging by one or more dominant operators in the market to the detriment of consumers or other operators.

**Information and Communications Technology (ICT)** - Any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning.

**Information highway** – All the changes in computing, new information technologies and systems, and related products affecting society and the economy.

**Information kiosk** – Dispenses free information in various forms; and also offers users a PC based terminal for Internet access. Information kiosks are part of Multi – Purpose Regional Community Centres.

**Information Society** – A modern population that is conversant with – and actively using – information and communications technology. A society where the creation and exchange of information is a predominant social and economic activity.

**Information Technology (IT)** - Information Technology (IT) is the study, design, development, implementation, support or management of computer-based information systems, particularly software applications and computer hardware.

Interconnect - The logical or physical linking of networks and services to their like equivalents.

**Internet** – A 'network of networks' linking millions of computers worldwide for communications purposes.

Internet Protocol (IP) - The dominant network protocol layer used with the TCP / IP protocol suite.

**IP telephony** – a general term for the technologies that use the Internet Protocol's packet switched connection to exchange voice, fax and other forms of information that have traditionally been carried over the dedicated circuit switched connection of the public switched telephone network.

**Licensee** – A person granted or issued with a licence.

**Non-Government Organisation (NGO)** – NGOs strive to achieve public objectives and derive their sources of funding through donors. NGOs are both a source of funding and a delivery mechanism.

**Number portability -** The ability of users of telecommunications services to retain existing numbers without impairment of quality, reliability or convenience when switching from one licensed operator to another.

**Public Private Partnerships (PPP)** - An approach to facilitate cooperation between the public and private sectors in delivering important Government policy initiatives. PPPs can take various forms.

**Radio waves** – Electro – magnetic waves which are propagated in space without artificial guide enabling frequencies of lower than 3 000 Giga Hertz.

**Rights of way** - Any strip or area of land, including surface and overhead or underground space, which is granted by deed or easement for the construction and maintenance of specified linear elements.

**Sector** – A distinct part of a market that can be described, categorised and targeted according to its own criteria and characteristics.

**Telecommunications network** - A transmission system (including any apparatus, software and stored data comprised within such a system) intended for the conveyance, transmission, and routing of signals of any description by the use of electrical, magnetic or electromagnetic energy, including a private telecommunications network, but shall not include a system intended to be used for broadcasting.

**Telecommunications services** - Services whose provision consists wholly or mainly in the conveyance, transmission or routing of signals on telecommunications networks but does not include broadcasting or content services.

**Universal Service** – Service available, as far as possible, to all the people without discrimination on any basis with adequate facilities at reasonable cost.