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Tanzania - Telecoms Market Overview & Statistics

1. SYNOPSIS

Tanzania has a fully competitive telecom sector with two fixed-line operators (TTCL and Zantel) and six operational mobile networks, with four additional players licensed under a new converged regulatory regime. Growing at 50% p.a., the mobile market passed the ten million subscriber mark in 2008 with four dominating major operators: Vodacom, Zain, Tigo and Zantel. At a penetration level of only around 30%, growth is set to continue. The liberalisation of VoIP Internet telephony as well as the introduction of 3G mobile and other wireless broadband services is boosting the Internet sector which has been hampered by the low level of development of the traditional fixed-line network.

2. KEY STATISTICS

Table 1 – Country statistics – 2008

COUNTRY STATISTICS	
Population (e)	39.7 million
Land area	945,000 sq km
Capital	Dar es Salaam
Local currency	1,176 Shilling (TZS) = US\$1
GDP at current prices (e)	US\$20.6 billion
GDP per capita	US\$519
GDP real growth rate (e)	7.5%
Government	Republic

Table 2 – Telephone network statistics – September 2008

TELEPHONE NETWORK STATISTICS	
Fixed telephone lines in service	163,000
Fixed-line teledensity	0.4%
Major public telecom operators	<ul style="list-style-type: none"> • Tanzania Telecommunications Co Ltd (TTCL) • Zanzibar Telecommunications Corp (Zantel)

Table 3 – Internet provider statistics – September 2008

INTERNET PROVIDER STATISTICS	
Internet/data application service licensees	47
Major ISPs	<ul style="list-style-type: none"> • Alink • Africa Online Tanzania • Tele2/CyberTwiga

Table 4 – Internet user statistics – 2008

INTERNET USER STATISTICS	
Internet users (e)	450,000
Internet penetration	1.1%

Table 5 – Mobile statistics – December 2008

MOBILE STATISTICS	
Mobile subscribers	12.686 million
Annual change	51%
Mobile penetration	30%
Major mobile operators	<ul style="list-style-type: none"> • Vodacom Tanzania • Zain Tanzania (Celtel) • Tigo (MIC Tanzania) • Zantel • TTCL

Table 6 – National telecommunications authority

NATIONAL TELECOMMUNICATIONS AUTHORITY		
Regulatory authority	Tanzania Communications Authority (TCRA)	Regulatory

(Compiled by BuddeComm, various industry sources)

3. OVERVIEW OF TANZANIA'S TELECOM MARKET

Tanzania's economy has been showing solid growth rates of around 7% every year since 2000. Mining and tourism are main industry sectors. However, the country continues to suffer from underdeveloped infrastructure, including roads, railways, electricity and telecommunications.

The government has actively embraced the principals of competition and a private sector including foreign participation as a means of rapidly advancing economic and social development. Policy reforms have led to the telecom sector becoming one of the more liberal ones in Africa. The arrival of new market entrants, increased sector investment, and the introduction of new services and technologies are encouraging signs for the future.

However, high import tariffs on telecoms equipment and taxes on telephone facilities by various authorities are still placing a burden on investors and operators.

The incumbent telecom operator is Tanzania Telecommunications Co Ltd (TTCL), which had a four-year monopoly until February 2005 on fixed-line basic telephony services on mainland Tanzania, and a duopoly on the island of Zanzibar. Zanzibar Telecom Ltd (Zantel) holds the second fixed-line voice licence, its licence area was extended from Zanzibar to the mainland when TTCL's monopoly ended.

First introduced in 1994, mobile telephony has enjoyed excellent growth since the introduction of competition to the sub-sector in 2000. Within the same year, the number of mobile phones passed the number of fixed-line connections in the country, and the ratio is now more than 60:1.

A new converged licensing regime introduced in 2006 has brought a large number of new players into the market. The liberalisation of Voice over Internet Protocol (VoIP) telephony as well as the introduction of third generation (3G) mobile services and wireless broadband networks is boosting the Internet sector which has been hampered by the low level of development of the traditional fixed-line network.

4. REGULATORY ENVIRONMENT

4.1 BACKGROUND

Two key items of legislation passed in 1993 provided the legal and regulatory framework required for sector restructuring and liberalisation.

The Tanzania Telecommunications Incorporation Act of 1993 established the Tanzania Telecommunications Corporation Ltd (TTCL) as the wholly state-owned operating company. Telecommunication services were previously provided by a government agency, the Department of Posts and Telecommunications. TTCL held exclusivity to transmit voice over fixed-line networks on the mainland until February 2005. Commercialisation of the company, as well as the separation of postal and telecommunication operations, were key initial steps in preparing it for success in a competitive environment.

The Tanzania Communications Commission (TCC) was established under the Tanzania Communications Act of 1993 and became the regulatory agency for the sector in 1994. Amendments to the 1993 Act, effective September 2001, gave more powers to the TCC to maintain, control and manage the national frequency spectrum and to ensure its fair allocation and efficient utilisation by operators.

A new regulatory authority, TCRA, was established in 2003, see chapter 4.2.1.

4.2 REGULATORY AUTHORITY

4.2.1 Tanzania Communications Regulatory Authority

The Tanzania Communications Regulatory Authority Act 2003 allowed for the establishment of the Tanzania Communications Regulatory Authority (TCRA) as the new regulatory authority for telecommunications, broadcasting and postal services, to operate in place of former authorities and to provide for the allocation and management of radio spectrum.

Formed by the merger of the TCC and the Tanzania Broadcasting Commission (TBC), the TCRA became operational in November 2003. Among others, its responsibilities include licensing of operators, regulation of rates and charges, monitoring the performance of the regulated sectors and promoting the availability of regulated services to all consumers including low income, rural and disadvantaged consumers.

The regulator's responsibilities included ensuring TTCL's exclusivity on international voice services by banning the use of VoIP at cybercafes. More recent challenges have been the resolution of inter-operator interconnection disputes; enforcement of interconnection agreements; licensing additional operators; and frequency re-allocation for mobile services.

4.3 NATIONAL TELECOMMUNICATIONS POLICY 1997

The National Telecommunications Policy (NTP) outlines objectives and strategies for the period 1997 through to 2020. It aims at ensuring the accelerated development of an efficient telecom network that can provide an information and communications infrastructure and universal access to telecom services by all sectors of the national economy and segments of the population.

To achieve the long-term objectives of the policy, strategies geared towards encouraging investments in the sector, enhancement of quality and reliability of telecom services and networks are being pursued. The specific target was to achieve a telephone density of six telephones per 100 population over the plan period, which was already achieved in 2005 due to the overwhelming success of the mobile networks.

4.4 NATIONAL ICT POLICY 2003

Increasing convergence of information and telecommunication technologies (ICT) made it necessary to supplement the National Telecommunication Policy of 1997 with the National ICT Policy of 2003 in order to improve harmonisation of initiatives, avoid duplication of efforts and random adoption of different systems and standards. The Policy deploys a broad-based national strategy to address Tanzania's developmental agenda, the Tanzania Development Vision 2025.

4.5 NEW LEGISLATION 2005

In 2005 a wide range of new regulations was passed:

- The Tanzania Communications (Broadband Service) Regulations 2005;
- The Tanzania Communications (Consumer Protection) Regulations 2005;
- The Tanzania Broadcasting Services (Content) Regulations 2005;
- The Tanzania Communications (Licensing) Regulations 2005;
- The Tanzania Communications (Importation and Distribution) Regulations 2005;
- The Tanzania Communications (Installations and Maintenance) Regulations 2005;
- The Tanzania Communications (Interconnection) Regulations 2005;
- The Tanzania Communications (Telecommunication Numbering and Electronic address) Regulations 2005;
- The Tanzania Postal Regulations 2005;
- The Tanzania Communications (RadioCommunications and Frequency Spectrum) Regulations 2005;
- The Tanzania Communications (Tariff) Regulations 2005;
- The Tanzania Communications (Type Approval of Electronic Communications Equipments) Regulations 2005;
- The Tanzania Communications (Quality of Service) Regulations 2005;
- The Tanzania Communications (Access and Facilities) Regulations 2005.

4.6 TELECOM SECTOR LIBERALISATION IN TANZANIA

The telecom sector has been liberalised since 1993. Licences have been issued for basic telephone services, data communications, Internet services, mobile cellular telephony, radio paging, internal wiring and installation of customer premises equipment as well as import and distribution of telecommunications and radio communication equipment.

Provision of basic telecom services through the Public Switched Telephone Network (PSTN) remained a monopoly to TTCL until 1995 when ACG Telesystems (later Adesemi Tanzania) was awarded a licence to provide wireless public phones, data and paging services. Adesemi withdrew in late 1999 citing inability to compete against other operators. Its network was acquired by Mobitel Tanzania (see chapter 11.3.1) which pioneered mobile services in the country.

Competition in the mobile sector was introduced from 2000 (see chapter 11). TTCL's monopoly on fixed-line services came to an end in February 2005 when Zantel was granted a licence to operate on the mainland.

4.6.1 Converged licensing framework (CLF) 2005 - 2006

With TTCL's monopoly on the mainland ending in February 2005, TCRA started designing a new licensing regime to promote increased competition by allowing more players to participate in the industry. Three new types of licences were introduced:

- Network facilities licences;
- Network services licences;
- Application services licences.

The market was further split into four segments: International, national, regional and district licences. TCRA hopes to bridge the digital divide between rural and urban areas by introducing district licences with financial incentives, supported by a Rural Telecommunications Development Fund (see chapter 4.8).

The new regulatory framework is technology-neutral and therefore included the legalisation of Voice over Internet Protocol (VoIP, see chapter 10.1). In addition, companies with excess capacity on their private networks such as railway and utility companies are allowed to compete in the market.

Since the introduction of the CLF at the end of 2005 there has been a flurry of applications for new licences including VoIP services, public payphones, mobile networks and Mobile Virtual Network Operators (MVNOs).

Exhibit 1 – Licences issued under the new CLF – end-2006 and end-2008

Licences issued	End-2006	End-2008
Network facilities licences	5	12
Network services licences	5	11
Application services licences	24	47

(Source: BuddeComm based on TCRA data)

In May 2006, Benson Informatics Limited (BOL) became the third company after TTCL and Zantel with a national network facilities licence, which effectively made it the country's third fixed-line and fifth mobile network operator. Using wireless Code Division Multiple Access (CDMA) wireless technology, the company started rolling out fixed-line coverage in Dar es Salaam, Arusha, Dodoma and Zanzibar, followed by other regions. Mobile services were launched in Dar es Salaam in 2007.

BOL had already launched a wireless broadband service in April 2005 under the name Benson Online, using Ripwave technology from US-based Navini Networks. The network was initially deployed in Dar es Salaam and Arusha and surpassed expectations when it immediately attracted 2,000 subscribers.

4.6.2 International gateways

TTCL was the only company licensed to operate international services in Tanzania until Zantel's licence was extended to cover the mainland as well in February 2005. At the beginning of 2006, TCRA licensed a third international gateway operator, Six Telecoms Company Limited (6 Telecoms), under the new converged licensing regime, see chapter 4.6.1.

6 Telecoms actually received three licenses: An international network facilities licence, an international network service licence and an application service licence. These allow the company to set up international transmission facilities in Tanzania and carry international voice services into and out of the country, including international roaming and SMS for the country's mobile operators, and calling card services.

Mobile operator Vodacom Tanzania (see chapter 11.3.2) received an international network facilities licence in July 2006. Its competitor Zain (see chapter 11.3.3) obtained an international gateway concession in November 2008.

Following the liberalisation of international gateways, international call rates in Tanzania dropped dramatically.

4.7 INTERCONNECTION

In early 2008 TCRA suggested a staged decrease of interconnection rates between operators from US\$0.08 to just over US\$0.07 per minute by January 2012. However, Vodacom Tanzania took the regulator to the Fair Competition Tribunal over the issue, claiming the new regulations would be to the disadvantage of the mobile operators.

4.8 UNIVERSAL SERVICE FUND

In mid-2008 the government was finalising plans for a new universal communication access fund in accordance with the Universal Communication Access Act of 2006. It will aim to enhance telecoms services particularly in rural areas. The National Telecommunication Policy aims to expand telecom services into rural areas by providing every village with telecom facilities by 2020.

5. FIXED NETWORK OPERATORS

5.1 TANZANIA TELECOMMUNICATIONS CO LTD (TTCL)

Established in 1994 as a state-owned company, TTCL operates a fairly modern telecommunications infrastructure and has embarked on an ambitious network deployment, to the extent that the major cities and towns now have access to communication services, but most rural areas remain underserved.

5.1.1 Privatisation and exclusivity period 2000-2005

In mid-1999, the government launched an international tender for the sale of a 35% stake in TTCL. Some 30 organisations showed interest and six submitted final bids. A consortium led by Germany's Detecon (a subsidiary of Deutsche Telecom) and Mobile Systems International Cellular Investment (MSI, which later changed its name to Celtel) of the Netherlands won the bid in June 2000 along with management control. The sale took the form of purchase of new

shares, and the proceeds remained within TTCL. The strategic partner took over board and management control in February 2001.

Under the deal, TTCL with its strategic partner was issued five new licences for fixed-line telephony, data, mobile, radio paging and as an Internet service provider (ISP). In return TTCL agreed to disengage from its joint ventures in Mobitel (mobile) and Datel (data services). The fixed-line licence gave TTCL an exclusivity period of four years on the Tanzanian mainland and an obligation to raise the number of lines from 162,000 to 800,000 by the end of that period which ended in February 2005. 30% of these lines had to be deployed in rural areas.

The private investors planned to spend over US\$900 million on infrastructure over a 10-year period, of which US\$543 million would be invested in the first year, to increase teledensity to 3.46% over three years and to 5.55% or 1.3 million subscribers over 10 years. By May 2002, however, after one year of operation, TTCL had only installed 21,000 lines, far below the 41,000 target required for 2001. In 2002, it was required to implement 100,000 lines, a target that was also missed by a long shot.

TTCL was also obliged to provide at least two payphones in every community with a population of more than 3,000 inhabitants. It planned to install 2,000 payphones nationwide starting in January 2004, operating on an Intelligent Network (IN) platform which enables prepaid services.

A prepaid system for fixed lines was launched in Dar es Salaam in May 2004, with the aim to improve TTCL's revenue assurance and hook to up 80,000 new customers in the remaining months of the exclusivity period, but this aim fell victim to the restructuring of the company during this time.

MSI-Detecon had agreed to pay for its stake in two tranches of US\$60 million, almost twice the amount bid by the other interested consortia. The first tranche was paid but returned for reinvestment into Celtel Tanzania's mobile business (see chapter 11.3.3) which was brought in by MSI. The second tranche remained unpaid until 2004 due to controversy surrounding TTCL's performance in the financial year 2000 which the final price was agreed to depend on. In February 2004, an expert commissioned to review the company's accounts concluded that MSI-Detecon should pay the government only US\$5.281 million as the second instalment, including interest of US\$321,000.

The management contract was, however, terminated at the end of the exclusivity period with the government claiming the company had not fulfilled its obligations. Of the agreed 800,000 lines TTCL had only installed 300,000 with less than 150,000 subscribers countrywide. Celtel was given three months to wind up operations and hand over, returning TTCL to full government control. The Dutch company had announced in November 2004 that it intended to pull out of TTCL's fixed-line business and concentrate on the more lucrative mobile business, seeking to buy out the government's share in it. The price of this share was under negotiation while Celtel Tanzania started paying back the US\$65 million capital to TTCL.

In July 2005, however, the government and Celtel reached an agreement to make a total investment of US\$53 million in both TTCL and Celtel Tanzania and redefining the roles of the two companies. They would be independent from each other, with TTCL focusing on providing a modern backbone infrastructure and broadband data solutions while Celtel would focus on the mobile business. The government and Celtel International would maintain their current ownership in TTCL, 65% and 35%, respectively. The two shareholders agreed to spin off Celtel Tanzania from TTCL allowing both shareholders to have a direct shareholding in the former. Concurrently, the government would sell 25% of its shareholding to Celtel International at a price of US\$28 million, resulting in the government owning 40% of the shares in Celtel Tanzania with Celtel International owning the remaining 60%. The deal was

completed in August 2005 and gave the government the majority on the TTCL board while Celtel International got a majority on the Celtel Tanzania board.

The government and Celtel International also reached an agreement on strengthening the financial positions of the two companies, resulting in US\$95 million available to invest in their networks during 2005.

The company had to spend US\$2.8 million in its fight against vandalism, sabotage and theft between 2001 and 2005. Nevertheless, in the first three months of 2005 alone it lost more than US\$150,000 as a result of these acts, not including loss of revenue due to non-availability of services.

5.1.2 Management contract 2007-2010

A government tender for the future management of TTCL by a private company was issued following the end of the exclusivity period and received seven bids. Three firms were shortlisted: Equity Telecom, Netherland Telecom and SaskTel of Canada. Opposition in parliament and from trade unions initially prevented the appointment of the selected winner, SaskTel, which was already running a project to upgrade TTCL's infrastructure. However, in February 2007 the Canadian firm was finally awarded a three-year management contract, starting from 1 July.

Many of TTCL's 2,200 employees were fearing for their jobs under the new management, and the trade unions continued to challenge the management contract.

5.1.3 Future privatisation plans

The government intends to sell 29% of the total shares in TTCL in the following manner:

- 14% to international financial institutions;
- 10% to national financial institutions;
- 5% to TTCL employees.

The Presidential Parastatal Sector Reform Commission (PSRC) started carrying out preparatory activities for implementing the government's strategy for the further privatisation of TTCL. As part of the process, the company's shareholding in its four joint ventures was transferred to the Treasury Registrar until they are sold. These shareholdings include:

- MIC (Tanzania) Ltd (Mobitel), a joint venture with Millicom International Cellular SA for the provision of mobile telephony;
- Datel Tanzania Ltd (Datel), a joint venture with Nexus International for the provision of data services;
- Teleshop Company Ltd, a joint venture with Tansoft Systems Ltd for the sale of telecommunications equipment through retail outlets;
- International House Property Ltd, a joint venture with Mitsubishi, Murray and Roberts and others, whose business was the development and ownership of prestigious office facilities for rental.

In order to pave the way for privatisation of TTCL, the government announced at the end of 2007 that it would write off the company's debts of around US\$5 million. In addition, more than TZS8 billion (US\$7 million) would be set aside for pension obligations.

The formation of a National Carrier of Carriers (NCC) under TTCL is being considered to manage excess capacity in the fibre-optics cables currently used by Tanesco, Tanzania Railways Corporation (TRC), Songas Limited and Tazara and lease it to customers.

5.2 ZANZIBAR TELECOMMUNICATIONS CORPORATION

Frustrated by the poor service provided by TTCL and in an effort to boost local economic development, in 1994 the government moved to launch a public-private joint venture on the semi-autonomous island of Zanzibar to provide better local telecom services. In 1996, Zanzibar Telecommunications Corporation (Zantel) received an operating licence to provide local and international voice and data services to Zanzibar only. The licence area was extended to the mainland of Tanzania in February 2005 when TTCL's monopoly ended. Zantel intends to launch both wireline and wireless services across all 25 regions of the country.

The company started as a joint venture between the government of Zanzibar, Italy's STET International and local investors. STET later pulled out and Etisalat of the UAE acquired a 34% stake, with the government retaining 18%. The other shareholders are Kintbury Investment of the Channel Islands (24%) and MEECO International of Tanzania (24%). In October 2007 Etisalat increased its stake to 51%.

Zantel utilises GSM-based technology to provide both fixed and mobile services and competes with TTCL and the other mobile operators providing services on the island. Its fixed and mobile networks cover more than 90% of the main island of Unguja and about 70% of Pemba. The company has a national roaming agreement with Vodacom on the mainland and also operates an international gateway.

In October 2004, Zantel signed an interconnection agreement with Gateway Communications, enabling it to increase its international traffic volume and to benefit from increased settlement revenue. Gateway established a direct satellite link between Zantel's domestic network and Gateway's hubbing centre in the UK.

6. TELECOMMUNICATIONS INFRASTRUCTURE

6.1 NATIONAL TELECOM NETWORK

Historically, Tanzania has suffered from poor telecommunications infrastructure, especially in the rural areas outside its capital, Dar es Salaam. The fixed-line network has been 100% digital since 2004. However, the coverage of the network infrastructure, with local exchange capacity of less than 300,000 lines and around 250,000 lines installed, remained concentrated in urban areas. The penetration in rural areas is minimal.

The backbone network uses fibre optic, microwave and satellite-based links.

6.2 FIXED-LINE STATISTICS

Table 7 – Fixed-lines in service by operator and teledensity – 1995 - 2008

Year	Fixed lines (thousand)		Teledensity
	TTCL	Zantel	
1995	90	-	0.3%
1996	93	-	0.3%
1998	127	-	0.4%
1999	150	-	0.6%
2000	174	-	0.5%
2001	178	-	0.5%

2002	162	-	0.5%
2003	147	-	0.4%
2004	148	-	0.4%
2005	154	-	0.4%
2006	151	0.7	0.4%
2007	158	5.5	0.4%
2008 (Sep)	156	7.0	0.4%

(Source: BuddeComm based on ITU and TCRA data)

6.3 WIRELESS LOCAL LOOP (WLL)

Both TTCL and Zantel have introduced Code Division Multiple Access (CDMA) wireless technology.

With its main contractor Huawei from China, TTCL ran pilot projects in Dar es Salaam, Arusha, Mwanza and Zanzibar before launching a commercial service in mid-2006. Dar es Salaam, Arusha and the Kilimanjaro region were the first to receive coverage, to be followed by other major towns later in the year.

Zantel soft-launched its CDMA network, supplied by ZTE, with 2,000 customers in July 2006 and started commercial service in Dar es Salaam and Zanzibar from November. The fixed-wireless service is priced at TZS13,000 (US\$11) per month. The addition of home Internet access doubles the cost to TZS26,000. A small business solution for TZS65,000 and a premier enterprise solution for TZS253,500 are also available. The system supports EV-DO which allows for data transmission rates of up to 2.4Mb/s.

6.4 MULTIPURPOSE COMMUNITY TELECENTRES

In cooperation with its development partners, the Tanzanian Commission for Science and Technology (COSTECH) established a pilot Multipurpose Community Telecentre (MCT) in the Sengerema district in Tanzania's Mwanza region in August 2000. Its development partners included the Canadian International Development Research Centre, UNESCO, the Danish International Development Agency and TTCL. Since the launch of the pilot MCT, additional centres have been set up throughout the country.

The establishment of the MCT at Sengerema coincided with the discovery of three gold mines in the area, stimulating economic activity and spurring local income.

MCTs are projects that bring basic telecom services (telephone, fax, Internet, email) and computer facilities to a community, typically in a remote or rural area, for the common use and benefit of those living in the community. Designed to serve both individuals and businesses, MCTs also provide training and, in some cases, telemedicine and distance learning services.

6.5 PRIVATE NETWORKS

Tanzania Electricity Company (Tanesco), Tanzania Railways Corporation (TRC) and Tanzania-Zambia Railways Company (Tazara) operate private networks for voice and data. Tazara is a long-standing collaboration between the governments of Zambia and Tanzania that serves common copper mining areas between the two countries enabling land-locked Zambia to use Dar es Salaam as its port.

Resale of bandwidth on private networks was initially not allowed. However, under the new regulatory framework introduced in 2005 (see chapter 4.6.1), owners of private networks are able to compete in the public market as well.

6.6 NATIONAL FIBRE BACKBONE

The government announced in mid-2008 it would spend TZS200 billion (US\$170 million) to build a national fibre backbone infrastructure linking all regional and district headquarters by 2010, financed by a soft loan from China. The system would link up with various international submarine fibre optic cable systems in Dar es Salaam, namely the EASSy, Seacom and Uhurunet cables. It will be government-owned with the operational management handled by TTCL.

6.7 INTERNATIONAL INFRASTRUCTURE

TTCL's International transmission is principally via two Intelsat satellite earth stations situated in Dar es Salaam, using satellites over the Indian Ocean and the Atlantic Ocean. A new earth station was commissioned in February 2004. Zantel has four earth stations – one Standard A, one B and two F1 – and is acting as an international gateway provider on a local and regional level, with links to several African countries, the Middle East, Europe and North America.

In September 2004, Tanzania, Kenya and Zambia announced they will open their first direct fibre optic cable links with each other, piggybacking on a multi-million dollar power cable project linking the countries' electricity grids. The first phase was due to come online in 2007, the final phase is planned to be completed by 2012. The bulk of the project's financing will come from the World Bank with the countries involved also providing funds.

Currently telephone calls between most African countries are routed through Europe or North America at high cost as the countries do not have direct international telephone links.

In April 2005, TTCL together with carriers from Burundi, Zambia and Lesotho joined the consortium that is planning to build the US\$200 million, 8,840km Eastern Africa Submarine Cable System (EASSy), which would link the region for the first time to other international cables. Zantel was already a consortium member together with 13 other African telcos. The system will run from South Africa to Djibouti, where it will connect to the SEA-ME-WE cable, thus allowing traffic to be routed to Europe and the Pacific. However, the project has experienced delays due to disagreements between the partners concerning the management structure for the cable, which has prompted Tanzania to also sign a communiqué regarding the TEAMS fibre project. TEAMS is a proposed submarine cable connecting Kenya with the United Arab Emirates.

The competing Seacom cable will also land in Tanzania and follow a similar route to EASSy.

TTCL is also a partner in the 4,000km Eastern Africa Backhaul System (EABs) which would link up cities in Tanzania, Kenya, Uganda, Rwanda and Burundi to the EASSy cable, running through Dar es Salaam, Mombasa, Nairobi, Malaba, Kampala, Mbarara, Katuna, Kigali and Bujumbura.

7. INTERNET MARKET

7.1 OVERVIEW

The Internet has been available in Tanzania since 1990. Its commercial development commenced in 1994, led by the telecommunication reform process. The government undertook a number of initiatives to foster growth in the Internet sector. It encouraged development by the private sector, supported the evolution of local Internet content and established a number of rural telecentres to enhance access.

7.2 INTERNET STATISTICS

Table 8 – Internet users and penetration rate – 1996 - 2008

Year	Users (thousand)	Penetration
1996	0.5	<0.1%
1997	2.5	<0.1%
1998	7.5	<0.1%
1999	25	0.1%
2000	40	0.1%
2001	60	0.2%
2002	80	0.2%
2003	250	0.7%
2004	333	0.9%
2005	384	1.0%
2006	390	1.0%
2007	400	1.0%
2008 (e)	450	1.1%

(Source: BuddeComm based on ITU and industry data)

Note: Internet users are those accessing the Internet from school, university, or work, as well as from individual household or business accounts. Hence, the number of Internet users is always greater than the number of subscribers. Internet subscribers are individuals who pay for Internet access accounts. For example, a work account is just one subscription but can have many users within that one subscription.

The number of dial-up accounts was around 50,000 in 2005.

According to results of a national survey released in April 2007, only 23% of the total population and 4% in rural areas have access to the Internet.

7.3 INTERNET ACCESS LOCATIONS

Tanzania has over 30 dial-up points of presence (PoPs) located in at least 15 regional centres.

Increased demand for Internet use has resulted in growth of the number of Internet cafes in the major cities. The majority are in Dar es Salaam, with around 200 in the rest of the country. Some cafes also offer subscription services whereby members get unlimited Internet surfing upon payment of a monthly fee. Many cafes are very basic and very few actually offer food or drinks. Some also sell mobile handsets and accessories.

In addition, the mobile networks are also being used for Internet access. This is set to increase with the introduction of 3G services, see chapter 11.5.

7.4 DATA OPERATORS

Prior to the introduction of the new converged licensing framework (see chapter 4.6.1), a large number of data network operator licences had been issued for the provision of national public and private data services, including Internet bandwidth. The public service providers included:

- Equant Tanzania Ltd;
- Afsat Communications Tanzania Ltd;
- Datel Tanzania Ltd;
- SimbaNet Tanzania Ltd;
- Tansat Tanzania Ltd;
- CRDB Tanzania Ltd;
- Tomain University
- Dimon Morogoro Tobacco
- TTCL;
- FastCom;
- SatCom Networks Africa Ltd;
- Pan African Communications;
- SITA Group;
- Citibank Tanzania Ltd;
- Coca Cola Kwanza Ltd;
- Standard Chartered Bank Ltd.

Under the terms of the licences, a 5% royalty fee on annual turnover was paid to the TCRA.

The University of Dar es Salaam also has an international data licence, but for a closed user-group only, comprising the University community. As such, it is not liable to licence fees charged to commercial licensees. It is however also precluded from resale to the general public.

7.5 INTERNATIONAL CONNECTIVITY

Tanzania and the entire East African region lacks cheap and high capacity connections to the global Internet. Access is typically via different countries in Europe and North America. Therefore, the available international Internet bandwidth is scarce and very expensive.

TTCL operates a countrywide IP-based network for local and international connectivity to the Internet. Its 140Mb/s digital microwave backbone is utilised to extend E1 Internet links. TTCL's international bandwidth stands at 64Mb/s (40Mb/s inbound and 24Mb/s outbound), up from 32Mb/s in 2004.

7.5.1 Very Small Aperture Terminal (VSAT) networks

VSAT satellite networks are the preferred data and voice communication solution in Africa where terrestrial alternatives are often unavailable. Virtually all of East Africa's international Internet bandwidth, including Tanzania, is currently transported via satellite while international submarine fibre optic cable systems along the African East coast and terrestrial fibre links are under development, see chapter 6.7.

Private VSAT users include financial institutions and large corporations with distributed offices and facilities.

7.5.1.1 SatCom Networks Africa Ltd (SCNA)

A pioneer of satellite communications systems in Tanzania, SCNA is a partnership between a local private entrepreneur and Intelsat (UK). It provides fully integrated data services and applications including Virtual Private Networks (VPN), private leased lines, Internet access, videoconferencing and broadcast services, as well as system design, installation,

commissioning, network management, training and support. The company is targeting various customer segments, including telecommunication and Internet services providers, the banking and mining sectors, as well as the broadcasting and entertainment industry.

SCNA launched a local satellite hub in Dar es Salaam in February 2003, greatly improving availability and reliability of services to end customers. Prior to this, traffic was routed through a number of hubs outside the country. Customers in Dar es Salaam are connected via a high-speed terrestrial microwave link, while satellite is used to connect remote sites.

7.6 TANZANIA INTERNET EXCHANGE POINT (TIX)

The lack of a national Internet Exchange Point (IXP) has meant that also much of Tanzania's local traffic has been routed via international routes. However, the situation changed with the launch of Tanzania's first Internet Exchange Point (TIX) in 2003, which reduces costs in terms of out-payment to satellite providers and improves connectivity. By September 2005, the exchange point was running at an average transfer rate of more than 500Kb/s, transferred 5.5GB of data daily and had 12 ISPs connected to it.

8. BROADBAND MARKET

The availability of high-speed broadband services is limited due to the poor fixed-line teledensity in the country. Wireless broadband networks are emerging as an alternative to the costly access directly via satellite that several ISPs are offering. In addition, broadband access is also available via the mobile networks, following the introduction of 3G services (see chapter 11.5).

8.1 ASYMMETRICAL DIGITAL SUBSCRIBER LINE (ADSL)

TTCL is offering ADSL broadband services in all exchanges in Dar es Salaam, Mwanza, Arusha, Dodoma, Iringa, Mbeya, Sumbawanga, Songea, Mtwara, Lindi, Pemba, Tabora, Shinyanga, Musoma and Zanzibar with download speeds of up to 2Mb/s.

At a monthly charge of between US\$300 and US\$800 for different bandwidth packages, the service is aiming at the corporate sector, cybercafes and hotspot operators. An entry level product is available at US\$0.03 per MB.

Two ISPs act as resellers of the service: Africa Online and Raha.com.

Africa Online (see chapter 9.1) started offering ADSL in February 2006 with two packages, called 'InfiNet Home' (128Kb/s at US\$100 per month plus VAT) and 'InfiNet Office' (256Kb/s at US\$250 per month plus VAT).

Raha.com offers 512Kb/s packages which are actually 384Kb/s downlink and 128Kb/s uplink. Packages range from 0.5GB monthly download for US\$48 to 5GB for US\$220. A multi-user package with 1Mb/s downlink and 256Kb/s uplink is also available.

8.2 WIRELESS BROADBAND

Several ISPs are providing wireless broadband services to their customers, see chapter 9.

In July 2007 TCRA awarded a licence to WBS Tanzania to offer wireless Internet access services using the iBurst technology proprietary to US-based company Arraycom. Already

operating in South Africa, Botswana and Ghana, WBS was planning to launch in Tanzania within three months, with plans to extend its footprint to the Democratic Republic of Congo (DRC), Kenya, Uganda and Rwanda and as well.

8.2.1 WiMAX

Redline Communications won a contract in November 2007 to install a WiMAX network in six cities for Hotspot Business Solutions, starting in Dar es Salaam, Mwanza and Arusha, followed by Dodoma, Morogoro and Zanzibar.

Mobile network operator Vodacom (see chapter 11.3.2) is also rolling out a WiMAX network.

9. TANZANIA'S ISP MARKET

Prior to the introduction of the CLF in 2005 (see chapter 4.6.1), 21 ISPs had been licensed, of which 17 were operational. The majority are operating only in major cities such as Dar es Salaam, Arusha and Mwanza.

9.1 AFRICA ONLINE TANZANIA

Africa Online is the leading pan-African ISP with operations in eight countries in Africa: Tanzania, Kenya, Uganda, Ghana, Cote D'Ivoire, Namibia, Swaziland and Zimbabwe. It has around 40 PoPs across the continent and provides Internet access, website development and e-commerce solutions. The Group also runs E-touch, a program that provides email and Internet access to customers who do not own computers, through a network of over 600 walk-in centres in urban and rural areas all over Africa.

South Africa's incumbent Telkom SA bought Africa Online's parent, the African Lakes Corporation, in February 2007 for £9.72 million.

In Tanzania, Africa Online offers a variety of Internet access solutions and value-added services including dial-up connectivity (with access numbers in Dar es Salaam, Arusha, Mwanza, and via the mobile networks), ADSL (see chapter 8.1), leased lines using TTCL copper lines, VSAT satellite services VPNs, security solutions, as well as web design, development and hosting services.

The company has deployed a Broadband Wireless Access (BWA) network covering the major urban centres of Tanzania. The system operates in the 3.5GHz and 10.5GHz frequency bands and utilises Orthogonal Frequency Division Multiplex (OFDM) technology provided by Alvarion.

Galileo Tanzania, the national branch of the electronic travel reservation system, signed a US\$1 million deal with Africa Online in July 2005 to connect all Galileo users – travel agencies across the country – through the ISP's TCP/IP network. Africa Online provides managed connectivity services to replace an X.25 service previously provided by SITA. The move to an IP platform is in line with Galileo's vision to adopt a more versatile communications protocol that not only enhances productivity but also allows a richer and value added offering to travel agents countrywide, combining ticketing and booking operations on a platform that will also provide Internet and email access.

9.2 RAHA.COM

Raha.com started operating in 1996. Along with Africa Online it is one of two ISPs reselling TTCL's ADSL service, see chapter 8.1. The company also offers dial-up connections, web hosting, and international calling cards in cooperation with Startel Tanzania.

9.3 TELE2 (CYBERTWIGA LTD)

CyberTwiga launched in 1996 and offers email, Internet access and commercial Internet facilities including fax gateways via live, full-time satellite links to the core Internet. With PoPs in Tanga and Dodoma, it also offers prepaid Internet services.

Under a joint venture agreement with mobile operator Mobitel, CyberTwiga provides Internet services to Mobitel and shares some infrastructure with Mobitel, see chapter 11.3.1.

9.4 ALINK (DATEL)

Formed in 1995 as a joint venture between TTCL and France Telecom's subsidiary Nexus International, Datel became one of the dominant ISPs in Tanzania. To finance infrastructure investments, Nexus and TTCL reduced their stakes to 36% and 35% respectively, in favour of the International Finance Corporation (IFC) and Proparco who became shareholders with 14.5% each. The company then changed its name to Alink in 2007. Cote d'Ivoire-based Afripa Telecom (which later changed its name to Alink) had acquired a stake in Datel in 2003.

The company's services include Internet access, email, leased lines via VSAT or WLL, and it also manages TTCL's domestic X.25 data network. In 2006 and 2007 it invested over \$800,000 into technology upgrades.

At inception, Datel offered Internet access through a node in Dar es Salaam using a 64Kb/s Time Division Multiple Access (TDMA) satellite link to France. In its first year of operation it secured a share estimated at around 80% of the Internet access market in Tanzania. Connectivity was then upgraded to a VSAT link connecting users to a hub in Paris, operated by [Equant](#) (see separate archived report).

For the past several years, Datel has been providing international connectivity to most of the major ISPs in the country through Taide Network AS of Norway.

A WLL system was installed in Dar es Salaam to provide lower-cost high-speed Internet access or leased lines to corporates or ISPs.

In 2007 the company obtained an international application services licence which allows it to offer services such as VoIP and calling cards.

9.5 INTERNET AFRICA (TANZANIA)

An associate of SatCom Networks (see chapter 7.5.1.1), Internet Africa was founded in 1996. Its servers are connected to the Internet gateway in Norway via a 512Kb/s VSAT link. It offers dial-up Internet access, wireless connections at up to 3Mb/s in the 2.4GHz frequency band, web design and hosting, co-location services and VSAT connectivity.

9.6 AFSAT

A subsidiary of Nairobi-based company Wilken International, Afsat has been awarded service provider licences in East Africa, including Tanzania, to install, commission and maintain VSAT networks. The company used Hughes Network Systems equipment to introduce services in Tanzania. The system provides transmission of data, voice and video communications to support a range of applications.

The company's flagship brand is iWay, including the three services iWay Broadband, iWay Dedicated and iWay Corporate Networks. iWay Broadband provides direct access to the Internet via a hub in Germany and/or the USA, as well as international VoIP calls for as little as US\$0.05 per minute. The other service packages offer dedicated bandwidth with transmission speeds of up to 8Mb/s for larger corporates or ISPs.

9.7 CATS-NET

Cats-Net is a wholly owned subsidiary of Cats Tanzania Limited, a pioneer of Information Technology in Tanzania. The company started its operations in 1997 and provides dial-up and broadband Internet access (wireless or via cable), website and domain hosting, website design, server co-location, network design, installation, administration and consulting services, including security audits. It claims a customer base of approximately 5,000 active Internet subscribers with an equal mix of residential and corporate users, including small to medium-sized businesses, major corporates, banks, government bodies and NGOs.

In June 2004, Cats-Net introduced a wireless network operating in the 2.4GHz, 5.8GHz and 3.5GHz frequency bands, offering Internet access at fixed bandwidth from 64Kb/s to 512Kb/s. The service is available in parts of Dar es Salaam, Arusha and Moshi, with plans to expand to other major towns as well.

Cats-Net's Internet gateway is provided via a direct satellite link to Taide in Norway with an aggregate bandwidth of 12Mb/s.

10. CONVERGENCE

10.1 VOICE OVER INTERNET PROTOCOL (VoIP) TELEPHONY

VoIP has become a popular alternative to regular long-distance phone calls in response to the high cost of conventional services in Tanzania.

In 2001, the TCC had placed a ban on all Internet calls until further notice in an effort to maintain exclusivity over international telephone traffic for the newly privatised TTCL. Since February 2005, under a new competition framework (see chapter 4.6.1), VoIP services have been liberalised.

ISP Cats-Net (see chapter 9.7) launched a VoIP service called Catsvoice in January 2006, offering international calls at low rates to consumers, resellers and service providers. Services include a phone-to-phone calling card solution, IP Phone, IP Gateway Broadband Phone, and PC Phone.

Afsat provides VoIP services under its iWay Broadband suite of services, see chapter 9.6.

Three companies – Clearline Communications, Hotspot Business Solutions (see chapter 8.2.1) and Wavetek Communications – received application services licences in September 2006 which allow them to provide a range of services including payphones, Internet access, videoconferencing, VoIP and calling cards. Benson Informatics had already been holding such

a licence since May (see chapter 4.6.1). Alink (see chapter 9.4) obtained an international application services licence in 2007.

In May 2008 TCRA licensed two more companies for VoIP services: 2-Mobile and E-Click.

11. MOBILE COMMUNICATIONS

11.1 OVERVIEW OF TANZANIA'S MOBILE MARKET

The mobile sector was the first to be liberalised in Tanzania when TCC introduced competition on a regional basis. By 2001, there were five operators licensed to compete in each of the four regions:

- MIC Tanzania Ltd – operating both analogue and digital services under the brand name Mobitel;
- Zanzibar Telecom – Zantel, initially licensed to operate in Zanzibar only;
- Tritel Telecom (Tritel);
- Vodacom Tanzania;
- The fifth licence went to TTCL as part of its privatisation deal.

The number of mobile operators was reduced to four in January 2003 following the cancellation of Tritel's concession after it failed to meet its licence obligations. Since then, UAE-based [Thuraya Satellite Telecommunications Co Ltd](#) (see separate archived research report) has proposed filling the gap left by Tritel by providing Global Mobile Personal Communications Systems (GMPCS) services through its dual-mode handsets and satellite payphones.

In addition to mobile services, operators are licensed to provide community tele-shop services. As a licence requirement, each operator has to establish these public call centres in all areas where its network provides coverage and at least 10 payphones per year in rural and sparsely populated areas.

In May 2006, Benson Informatics Limited (BOL) became the country's fifth mobile network operator when it obtained a national licence under the new converged licensing framework (CLF, see chapter 4.6.1). Mobile services using CDMA technology were launched in Dar es Salaam in 2007. Around the same time, TTCL launched its own CDMA-based mobile service.

Under the CLF, several more companies received licences including mobile services:

- In September 2007 Excellentcom became the country's seventh operator when it obtained national licences for network facilities, network services and application services. Backed by Saudi-based HiTS Telecom, the company signed a US\$180 million contract with China's Huawei Technologies in June 2008 for the rollout of a nationwide network within 13 months with an initial capacity for two million subscribers. HiTS Tanzania is 65% owned by HiTS Africa, the African telecoms investment arm of the Kuwait-based HiTS Telecom Holding, with local investors Jitco and Excelsys holding the remaining 35%. It plans to invest US\$500 million over five years into voice and data services and create 500 jobs in the process.
- Another CDMA operator, Dovetel Limited, launched services in Dar es Salaam in June 2008, following the award of a network facilities, network services and application services licence.
- Two additional companies, Egotel and MyCell, were licensed for fixed and mobile services in November 2008.

The regulator is encouraging the operators, where possible and agreeable, to share infrastructure including base stations.

The acceptance of prepaid mobile services by Tanzanians has mirrored the trend in other African countries – the vast majority of customers choose this option over postpaid contracts.

The cost of mobile services has fallen by more than 70% since the launch of Vodacom's network in 2000. However, telecom equipment is subject to 20% import duty and 20% value-added tax, and the regulator charges a royalty fee on gross revenues to the operators. Tanzania's 7% excise tax on mobile airtime is lower than Kenya's 10% and Uganda's 12%.

All operators have introduced the option of per-second billing.

11.2 MOBILE STATISTICS

Table 9 – Mobile operators, subscribers and annual change – December 2008

Operator	System	Launch	Subscribers (thousand)	Annual change
Vodacom	GSM 900/1800	08/2000	5,282	35%
	W-CDMA-2100 HSDPA	03/2007	73	85%
Zain	GSM 900	12/2001	3,862	54%
	W-CDMA-2100	12/2008	5	n/a
Tigo	GSM 900	09/2000	2,297	93%
Zantel	GSM 900/1800	07/2000	1,049	53%
	CDMA 800	12/2006	9	197%
TTCL	CDMA 800	01/2007	106	12%
BOL	CDMA 450	02/2007	3	-14%
Total			12,686	51%

(Source: BuddeComm based on TCRA and Global Mobile data)

Table 10 – Mobile subscribers and penetration rate – 1995 - 2008

Year	Subscribers (thousand)	Penetration
1995	3.5	<0.1%
1996	9.0	<0.1%
1997	20	0.1%
1998	39	0.1%
1999	58	0.2%
2000	127	0.4%
2001	276	0.8%
2002	607	1.7%
2003	1,295	3.5%
2004	1,942	5.2%
2005	3,390	9.0%
2006	5,609	15%
2007	8,323	22%
2008	12,686	30%

(Source: BuddeComm based on ITU, Global Mobile and TCRA data)

According to a study sponsored by Vodacom's parent, UK mobile giant Vodafone, 97% of Tanzanians had access to a mobile phone in 2005 (including shared phones), while only 28% had access to a fixed-line phone. The success of the mobile networks has contributed to a significant reduction of the fixed-line waiting list while the number of fixed lines in service has actually decreased.

A new numbering system was implemented in 2005/06 to accommodate new services and a rapidly expanding subscriber base.

In October 2008 Vodacom registered its 5 millionth customer.

11.3 MAJOR MOBILE OPERATORS

11.3.1 MIC Tanzania Ltd (Mobitel, Tigo)

Mobitel pioneered the development of cellular communications in Tanzania, launching the first (analogue) service in 1994. It started off as a joint venture with TTCL, which divested its 29% shareholding in 1999 to pave the way for privatisation that required an exclusive mobile licence be added to the privatisation package to make it attractive to investors (see chapter 5.1.1). After taking over a 26% stake from the government in February 2004, Luxemburg-based Millicom International Cellular (MIC) owned 84% of the company until it assumed 100% ownership in early 2006 when it bought out other minority shareholders for US\$1.332 million.

Millicom has operations in seven African countries and a significant presence in Latin America and Asia as well. For more information, see separate report: [Africa - Pan-African Operators - Overview & Statistics](#).

Mobitel started offering a range of service plans including its Kadi Poa prepaid cards, which launched in August 1998. After Adesemi Tanzania (formerly ACG Telesystems) withdrew from Tanzania, Mobitel acquired its public phone and data network and started offering fixed-cellular units called Phonecell, which allow customers using a Mobitel number to connect the unit to Private Automatic Branch Exchange (PABX) networks, fax machines and email services. Phonecells became popular among people who do not have access to fixed lines and need fax and email. Users can also connect to the company's subscription-free Internet service, MobiNet.

In September 2000, Mobitel launched its digital GSM network in Dar es Salaam, Arusha and Zanzibar. Coverage has since been extended to most major towns and interconnecting roads. Both postpaid and prepaid services are offered. Value-added services include voicemail, SMS, email-to-SMS, fax and data service, among others. International roaming agreements are in place with operators worldwide. MMS and GPRS are also available.

At a cost of US\$1 million, the service was rebranded from 'Buzz' to 'Tigo' in 2006, in line with MIC's mobile operations in other countries.

The analogue network continued to operate in parallel with the GSM network but had only 5,000 subscribers left in September 2005 and was eventually shut down.

In partnership with ISP CyberTwiga, Mobitel introduced the country's first prepaid Internet service in mid-2001. Branded Tele2, the service allows Mobitel customers to surf the Internet without the need for an ISP account. Access is via regular phone lines, not mobile phones, so anyone with a computer and modem can have immediate access to the service. Tele2 service is available in Dar es Salaam, Tanga and Dodoma.

MIC Tanzania was issued with a new 15-year licence in September 2001, which replaced its original licence issued in 1993. Mobitel was assigned 10MHz in the GSM 900MHz band, 1MHz in the GSM 1800MHz band and 10MHz in the EGSM 900 frequency band.

Mobitel had constructed 155 base stations by July 2005 when the company announced an investment of some TZS35 billion over a 12 months period that would take the number of the

base stations to 300 by March 2006. The aim is to have services available in every locality in the country.

Tigo Tanzania launched Wireless Application Protocol (WAP) in early 2008 and reported 80,000 users of the new service within three months.

11.3.2 Vodacom Tanzania Ltd

Vodacom Tanzania is a subsidiary of South Africa-based Vodacom (Pty) Ltd, which owns 65% of the company. The remainder is held by the local Mirambo Ltd which acquired the 35% stake from Planetel Communications (16%) and Caspian Construction (19%) in 2008.

Licensed to operate a dual-band GSM system in December 1999, Vodacom Tanzania now has the largest mobile network in the country with 44% market share, although this has come down from more than 50%. The Siemens-supplied system launched in August 2000 in 11 regions. It now covers all major cities and highways with geographical coverage more extensive than that of its competitors, allowing it to charge higher prices.

Vodacom's network has an IN platform as well as various management and maintenance platforms. It offers all the standard GSM services including mobile data, fax, SMS, MMS, GPRS, plus SMS2Email, MMS2Email, Twincall (for contract subscribers), a range of information services and international roaming with more than 260 networks in over 130 countries worldwide.

In 2004 Vodacom introduced two new SMS services: Call Me and Credit Transfer. Call Me allows users who have run out of prepaid funds to send a free SMS to another Vodacom subscriber requesting them to call back. Credit Transfer allows users to transfer prepaid credit to other Vodacom subscribers.

Vodacom has also launched a community initiative to establish public call stations across rural and urban areas. Known as Vodacom Simu Ya Watu (People's Phone), containers with five cellular lines and 10 calling booths or single units are purchased and run by local entrepreneurs. Three companies – fellow shareholder Planetel, Shared Phone and OneCell – were signed up in August 2006 as partners to market the product.

Vodacom Tanzania received an international gateway licence in July 2006, see chapter 4.6.2. The company has also started rolling out 3G mobile technology as well as WiMAX, see chapter 11.5.

In April 2008, Vodacom Tanzania launched the M-Pesa mobile money transfer service which had been successfully introduced by its sister company Safaricom in neighbouring Kenya. For more information, see separate report: [Kenya - Mobile Market - Overview and Statistics](#).

By mid-2008 Vodacom had invested a total of around US\$2 billion in Tanzania.

For more information on Vodacom and its other international activities, see separate reports:

- [Africa - Pan-African Operators - Overview & Statistics](#); and
- [Africa - Pan-African Operators - History to 2006](#).

11.3.3 Zain Tanzania (formerly Celtel)

Celtel Tanzania Ltd became 60:40-owned by Celtel International and the Tanzanian government following its separation from TTCL (see chapter 5.1.1), of which it remained a 35% shareholder. It is part of the pan-African Celtel Group which was acquired by Kuwait's

MTC in 2005 and rebranded to Zain in 2008. Zain has a presence in 20 countries in Africa and the Middle East with more than 50 million subscribers.

Celtel's Alcatel-supplied network launched in Dar es Salaam in December 2001 with an IN platform enabling prepaid services, a voicemail system, an SMS centre, and a customer care and billing system (CCBS) for postpaid services. Multimedia Messaging Service (MMS) and SMS information services are also available. A Web2SMS service was launched in April 2007, allowing subscribers to send SMS text messages from their PCs instead of their mobile phone.

The Me2U service allows transfer of prepaid airtime between subscribers.

The network covers all mainland regions and Zanzibar. International roaming agreements have been established with over 200 networks in more than 100 countries worldwide.

In May 2005 Celtel signed an agreement with Ericsson for an expansion of coverage and capacity of the network, including a softswitch solution and an upgrade for General Packet Radio Service (GPRS). Another contract followed in November 2005 to upgrade Celtel's mobile networks in Tanzania, Uganda and Kenya.

The company launched a mobile Internet access service based on GPRS and EDGE (Enhanced Data for GSM Evolution) in April 2006, offering significantly faster connection speeds than dial-up.

In mid-2006 Celtel Tanzania secured a US\$90 million, 4.5-year loan to carry out network expansion work, with an option for a further US\$15 million in early 2007. The loan was arranged by the African Standard Bank and eight other financial institutions. It will be used to install 400 new base stations.

Four months after separating from TTCL in July 2005, Celtel Tanzania retrenched over a third of its 3,480 workforce. The US\$18 million redundancy payments were met by TTCL. The mobile operator had planned the cuts for two years but they were blocked by unions, unhappy with the compensation packages being offered.

For more information on Zain/Celtel, see separate reports:

- [Africa - Pan-African Operators - Overview & Statistics](#); and
- [Africa - Pan-African Operators - History to 2006](#).

11.3.4 Zantel

Initially granted a licence to operate a GSM mobile network on the island of Zanzibar only, Zantel (see chapter 5.2) launched its dualband service in July 1999 offering island-wide coverage. The semi-autonomous island has its own international code.

Initially a joint venture between the government of Zanzibar, STET International and local investors, Zantel is now 51% owned by Etisalat of the UAE. The company utilises GSM-based technology and equipment supplied by [Ericsson \(LM Ericsson\)](#) (see separate archived report) to provide both fixed and mobile services. Its international gateway was provided by Scientific Atlanta.

From February 2005, when TTCL's monopoly as the sole gateway provider to mobile operators ended, Zantel began to operate on the mainland as well. In May it ordered a customer account management platform from Eskadenia with an initial capacity of 200,000 subscribers, a number that will be upgraded at further stages within a foreseen time plan. GSM services on the mainland were launched in July 2005 after the company had entered into a ten-year national roaming agreement with Vodacom, allowing it to provide national coverage on the mainland instantly using Vodacom's infrastructure.

In mid-2006 Zantel reduced its international tariffs by 68%. Calls to the most commonly called destinations fell to around US\$0.30 per minute.

11.4 TARIFFS

11.4.1 Special regional tariffs

With operations in Tanzania, Kenya, Uganda and other countries in the Common Market for Eastern and Southern Africa (COMESA) region, Celtel has been planning to offer a single rate for calls within these countries if they approve a plan for direct links between them. The company announced a pan-African calling tariff in September 2005, exclusively for Celtel customers calling other Celtel subscribers within East Africa. The new rates are billed in per-minute increments and apply to both prepaid and postpaid tariff plans.

Vodacom Tanzania had reached a similar agreement with Uganda Telecom and Kenya's Safaricom in May 2005.

11.4.2 Free international roaming

While the European Union was still talking about it, East Africa was already doing it: Mobile networks in Tanzania, Kenya and Uganda have introduced regional tariffs without international roaming charges, and it's doing miracles for their business.

The three countries are members of the East African Community (EAC). The EAC was formed in 1999 and is in the process of implementing a common market by eliminating customs barriers, with the aim of a monetary union and ultimately a political federation of member states.

Celtel was the first to introduce regional tariffs without international roaming charges in September 2006 and had the advantage of actually owning networks in each of the three countries, enabling it to merge the three networks into what is now advertised as 'One Network' without the need for external agreements. Prepaid and contract subscribers can make calls from anywhere to anywhere within the three countries at local rates and are not charged for incoming calls when they are outside of their home country. Prepaid customers can also top up their credit with airtime cards bought in any of the three countries, no matter where they are.

Celtel is not the market leader in terms of subscriber numbers in any of the three countries. Those market leaders took almost half a year to come up with a similar offer which they launched in February 2007: Vodacom in Tanzania, Safaricom in Kenya (another member of the Vodafone Group), and MTN Uganda (Vodacom's archrival in the home market of the two companies, South Africa).

The model is boosting subscriber numbers and traffic volumes for the operators. In Kenya, Celtel's customer base reportedly jumped by 15% in the three months following the introduction of 'One Network'. In Uganda, Celtel estimates that 40% of its subscriber growth since the launch of 'One Network' can be attributed to the new service, and MTN has seen a seven-fold increase of the number of roaming customers in the barely one month that the new service has been available.

In mid-2007, 'One Network' was expanded to include the Republic of Congo, the Democratic Republic of Congo, and Gabon. Free data roaming was introduced within Tanzania, Kenya

and Uganda later in the year under the name 'One Office'. By 2008 most of Zain's mobile networks were participating in the scheme.

11.5 THIRD GENERATION (3G) MOBILE AND WIMAX

Siemens won a US\$126 million contract in August 2006 to install a Universal Mobile Telecommunications Service (UMTS) network for Vodacom Tanzania, including High-Speed Downlink Packet Access (HSDPA). The network was switched on in Dar es Salaam in January 2007 with a full commercial launch in the first quarter, followed by Dodoma and Arusha. Initially it offered Internet access with up to 1.8Mb/s, which was upgraded to 7.2Mb/s in 2008.

In collaboration with the GSMA Development Fund and Qualcomm, Vodacom is establishing Internet cafes using the HSPA system throughout the country, including rural areas, under the 'Wireless Reach' initiative. The initiative started in Dar es Salaam, Dodoma and Arusha. The cafes are run by local entrepreneurs.

Vodacom claimed 15,000 3G users in Tanzania in March 2008.

In parallel, the company is adding WiMAX technology to its network which will enable it to offer even faster Internet access and advanced services. Cambridge Broadband was contracted to install its VectaStar 10.5GHz transmission equipment for Vodacom's GSM, 3G and WiMAX base stations in Dar es Salaam, Arusha, Moshi and Mwanza.

12. RELATED REPORTS

For information relating to:

- Telecommunications markets in other African countries, see: [Africa](#);
- Worldwide activities in the telecommunications industry, see: [Global Overviews](#);
- Technical information relating to the telecommunications industry, see: [Telecommunications Technologies Library](#).

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