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TCRA qualifies for new global regulatory standard

Branding countries
in cyberspace



Studies being Implemented in the 2024/2025 Financial Year

To effectively regulate the dynamic communications sector, TCRA needs to be well-informed and capable of anticipating emerging patterns and accurately responding to future sector developments. Conducting applied research in strategic areas is necessary to achieve this. On that note, TCRA engaged through a competitive tendering process for researchers to undertake research studies in various areas.

TCRA is implementing the following studies:

S/N	Research Topic	Research Objective	Duration	Start date	End date	Consulting firm	Team Leader	Country
1	Review of Legal and Regulatory Framework for Broadcasting sub-sector	To review the legal and regulatory framework for broadcasting services, taking into account the advancement of broadcasting technologies and sub-sector challenges	8 Months	May 2024	February 2025	M/S Cenerva Ltd	Prof. H.Sama Nwana	United Kingdom
2	Consumer Satisfaction survey	Ascertain the satisfaction of consumers with communication services and assess compliance to with Quality of Services and Quality of Experience targets	5 Months	January 2025	June 2025	Institute of Finance Management (IFM)	Dr. Deogratius Lashayo	Tanzania
3	Customer Satisfaction Survey	To assess the level of TCRA's customer satisfaction with services provided based on the current service delivery practices as guided by ISO 9001:2015 and TCRA client service charter	5 Months	January 2025	June 2025	University of Dar es salaam (UDSM)	Prof. Siasa Mzenzi	Tanzania
4	Emerging Technologies	To establish a regulatory framework for Artificial Intelligence in Tanzania	6 Months	January 2025	June 2025	Dar es Salaam Tumaini University (DARTU)	Dr. Godfrey Wandwi	Tanzania

THE REGULATOR IS PUBLISHED QUARTERLY BY TCRA

TCRA duties outlined in the establishing Act are:

1. Promoting effective competition and economic efficiency;
2. Protecting the interest of consumers;
3. Protecting the financial viability of efficient suppliers;
4. Promoting the availability of regulated services to all consumers including low-income, rural and disadvantaged consumers; and
5. Enhancing public knowledge, awareness and understanding of the regulated sectors including:
 - (i) The rights and obligations of consumers and regulated suppliers;
 - (ii) How complaints and disputes may be initiated and resolved; and
 - (iii) The duties, functions and activities of the Authority taking into account the need to protect and preserve the environment.

STRATEGIC OBJECTIVES

The TCRA rolling strategic plan (2021/22-2025/26) has the following objectives:

Efficient, reliable and secure communications infrastructure and applications promoted
Regulated services innovation, local content generation and localization enhanced;
Performance of regulated services and stakeholders' protection enhanced
Institutional Capacity Enhanced.

STRATEGIC OUTCOMES

1. Reliable and secure communication services and applications.
2. Improved accessibility, affordability and quality of communication services.
3. Informed society about local content.
4. Improved compliance and market performance.
5. Improved Institutional efficiency.

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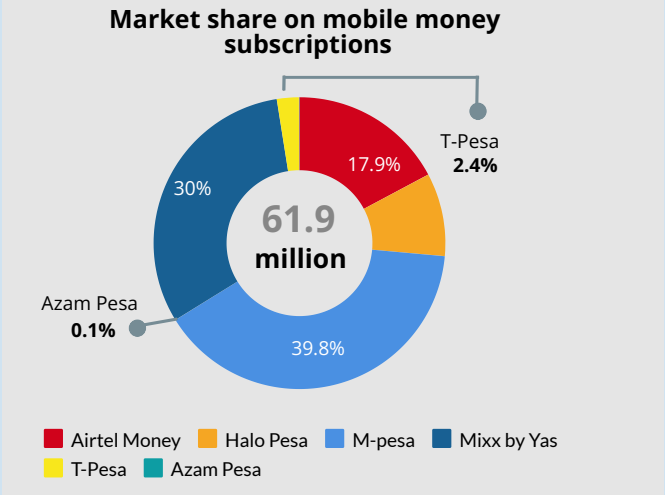
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TCRA fits new regulatory model, spectrum auction

Our lead article is on the International Telecommunication Union (ITU) assessment of TCRA's performance.

The specialized United Nations Agency for Information and Communications Technologies (ICTs) says TCRA has the most crucial tools for achieving a higher level of regulation.

We have two reports that confirm how TCRA implements collaborative regulation. They also show that Tanzania scores above Africa's average on all four pillars of collaborative regulation and their indicators.

We also report on how Tanzania is establishing an ITU-facilitated centre to accelerate its digital transformation through innovations in ICTsS.

TCRA supports innovations and entrepreneurs who have ideas on leveraging communications resources to contribute to Tanzania's digital economy agenda.

TCRA Director General Dr Jabiri Bakari is a bBoard member of a transformative ITU organ on dDigital iInnovation.

We have a story on the planned auction of prime radio spectrum in July and how this will contribute to the national economy.

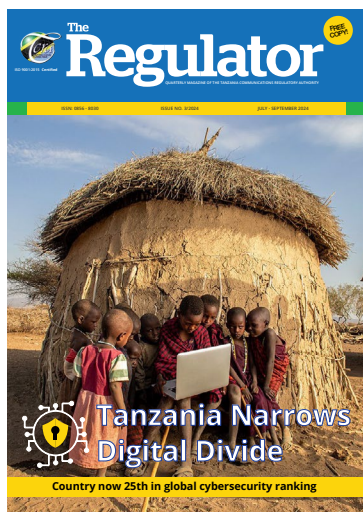
We have introduced a forum for sharing practical insights into technologies and services. The inaugural article compares satellite and fibre optic cable options for broadband services.

The legal updates column highlights the amendments made to the Electronic Communications Equipment Standards and E-Waste Management Regulations, which have additional obligations for manufacturers and importers of electronic equipment to be used in Tanzania.

This end-of-the-year edition presents the quarterly statistics and reviews the communications sector's performance review between January and December 2024.

The January-March edition will carry a special supplement on four years of the sixth phase of government (March 2021 - March 2025).

Invitation to subscribe



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The chairman of the Editorial Board invites contributions, informed views and comments. Please call the TCRA toll-free number **0800008272** for additional information.

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Communications plan for efficient disaster management



By Dr Jabiri K. Bakari, TCRA Director General

The Tanzania Communications Regulatory Authority (TCRA) has developed and published a national plan for communicating through electronic networks during emergencies.

The national emergency telecommunications plan (NETP), released in November 2023, is a strategy to combat challenges resulting from disasters and natural events.

NETP underlines the effectiveness of stakeholder coordination and collaboration during all stages of unforeseen events that cause extensive damage, destruction and human suffering that overwhelms existing mitigation capacities.

Disaster responses include installing essential interoperable communications systems to facilitate the work of emergency response personnel. NETP requires stakeholders to conduct training and carry out drills on incident responses. This will also enable them to identify opportunities to improve their capabilities to respond to events.

Stakeholders should also identify, analyze and mitigate risks to emergency communications. Risk management includes identifying all critical ICT infrastructure and equipment prone to natural, technological or man-caused disasters.

NETP covers emergency communications needs of all stakeholders, including the government, its agencies, the private sector and non-government organizations (NGOs). It lists operability, interoperability, continuity and continuity as the four primary elements of emergency communications.

Emergency responders should be able to establish and sustain communications during emergencies and disasters. They should also be able to communicate at all levels, and information exchange should be faultless and seamless.

Service providers should sustain communication even when the primary infrastructure is destroyed. NETP envisages amending infrastructure-sharing regulations to include conditions for compulsory sharing in emergencies. This is necessary when there are failures in some network links. NETP emphasizes that stakeholders should support persons with special needs during emergencies.

Stakeholders should give basic education on emergencies to vulnerable groups, emphasizing life skills, situational awareness, safety precautions and basic disaster preparedness. Persons with disabilities, seniors, children and women with young children should be targeted.

Service providers are required to provide timely information when disasters strike. They should also review, revise and update their disaster processes whenever they change their network topologies.

Stakeholders should ensure that all ICT networks are natural disaster-proof and make an inventory of backup equipment used in network failures.

The Prime Minister's office coordinates the NETP as part of the national disaster management plan. TCRA will review the NETP every three years in response to developments within Tanzania and global technological changes. The review shall also consider the outputs of simulations and disasters.

TCRA ready for new global regulatory standard

“Tanzania has recognized that in a digital age if the country is to reap the benefits of broadband and digital technologies, the regulatory regime must facilitate market entry and innovation.”

The International Telecommunication Union (ITU) says the Tanzania Communications Regulatory Authority (TCRA) has most of the key tools for moving to a higher level of regulation that embraces guide-lines and high-level principles rather than traditional approaches.



ITU says in a recent report that TCRA is a mature regulator with best practices and is poised to enter what it calls fifth-generation (5G) regulation.

It is based on collaboration among stakeholders in the communications value chain.

Some of the best practices are infrastructure sharing,

open access frameworks, and SIM card registration. These facilitate the transition to a digital economy.

Excerpts of the report:

The ability to successfully collaborate is one of the key building blocks of a digital economy and a key marker of a fifth-generation (G5) regulator.

Collaboration is the dominant element of modern digital regulation the watermark of G5 regulation. It measures the breadth and depth of cross-sector collaboration between the ICT regulator and peers that play a role in the digital economy.



Regulation has facilitated the entry of players that have brought about much of the innovation and development in the mobile market. Regulation is then complemented by other government players in the environment and the private sector.

Good regulation has led to many partnerships between entrepreneurs, mobile companies and donor organizations to promote the development of emerging technologies in health, education and agriculture.

It is important to put in place incentives to encourage private sector participation in the deployment of infrastructure, creation of jobs and promotion of skills development, amongst others.

Tanzania has long recognized that regulating communications in silos, which at the time were split into telecommunications, postal and broadcasting, was counterproductive and would inhibit innovation, competition and growth.

Similarly, Tanzania has recognized that in a digital age, if the country is to reap the benefits of broadband and digital technologies, the regulatory regime must facilitate market entry and innovation and the principles of collaborative regulation must be applied across the information and communications technologies (ICT) sector and the economy.

To move into the next generation of regulation, and to increase uptake and usage of digital technologies, TCRA and other associated ministries, agencies and regulators will have introduced more highly coordinated collaboration, with clear roles and mechanisms and well-defined goals and anticipated outcomes into the regulatory and oversight environment.



Tanzania's move to G5 will require the regulator to shift to guidelines and high-level principles rather than traditional prescriptive regulation.

As has been done in the local fintech area, in particular around the introduction and promotion of mobile money, agility and innovation in the use of new policy instruments are key to enabling "test and learn" approaches.



Tanzania has a history of regulation and strong institutional foundations. The ICT sector policies and regulations are robust and the institutions responsible for implementing them have been stable over the past two decades.

The country's policy and regulatory base facilitates mobile broadband coverage, particularly in urban areas, and innovative mobile services, including mobile money. Furthermore, its institutions are credible and mature. Government usage is increasing steadily a gap, however, is in the increase of usage and uptake of ICTs in particular by business and individual users.

In practice, although the country has undertaken many measures and facilitated several projects reflecting a commitment to using ICTs for development, this is not captured in cross-sector policy and regulatory frameworks.

Areas that Tanzania can consider strengthening its frameworks include strengthening the digital policy framework. Tanzania should consider reviewing and updating the current sector policies to move from an ICT for development focus to a digital economy approach.

“

Good regulation has led to many partnerships between entrepreneurs, mobile companies and donor organizations to promote the development of emerging technologies in health, education and agriculture.

This can be done through reviewing existing policies. All key departments including transport, agriculture and health should furthermore be encouraged to put in place digital strategies.

All policies and strategies should be supported by an implementation plan that sets out: the responsible ministries, departments and agencies; budget considerations; and timeframes for implementation.

A plan for effective monitoring and evaluation should also accompany all strategies to facilitate the move from policy to action.

Tanzania should close the access divide, including skills gaps.

The digital economy will rely on pervasive network coverage, and more people will have access to ICTs at affordable rates.

Tanzania should consider implementing measures to increase awareness, affordability and accessibility of basic ICT services in preparation for using digital applications, services and platforms.

The country should encourage consultation and collaboration. These should be an intrinsic part of the policy-making process from policy formulation to the development of complementary policy instruments (regulations, guidelines, etc) to ensure buy-in by all stakeholders.

Effective consultation and encouraging collaboration across sectors will facilitate smooth policy implementation. Full-fledged consultation with industry, academia, consumer associations and end-users is key to the success of the Tanzania Development Vision 2025 and any subsequent policy instruments.



Tanzania scores high on collaborative regulation

By Our Correspondent

A separate ITU report shows that Tanzania scores above Africa's average on all four pillars of collaborative regulation and their indicators.

Titled Global Digital Regulatory Outlook 2023—Policy and Regulation to Spur Digital Transformation, it says the pillars are national collaborative governance, policy design principles in the digital arena, a digital development toolbox, and a country's digital economic policy agenda.

National collaborative governance fully measures cross-sector collaboration among the ICT regulator, peer regulators and policymakers. It addresses institutional mandates and formal and informal collaboration.

Since principles rather than rules drive sectoral regulation, policy design principles in the digital arena focus on the design of frameworks and their coherence.

The digital development toolbox includes regulatory measures that stimulate the development of a sustainable digital economy.

Also included here are new consumer needs, business models and market dynamics, cybersecurity, data protection, emergency telecommunications, and cross-sector infrastructure sharing.

The report defines the digital economic policy agenda as country policies and interventions to promote the digital economy, entrepreneurship, and investment.

Tanzania's 2023 score on policy design principles in the digital arena was almost double the African average. It is above the African average within the East African Community (EAC) and Southern African Development Community (SADC) regions.

The report also outlines five policy and regulatory strategies that drive digital transformation.

The strategies are new leadership styles that employ traditional and experimental approaches and cross-sector collaboration among regulators and policymakers. Others are deeper stakeholder engagement and promoting innovations.

Regulators in the digital economy supply chain should enhance collaboration. These regulators include those in ICT, finance, industry, energy and transport sectors.

"Effective stakeholder dialogue is one of the main enablers of regulatory compliance and policy implementation in the digital transformation" the report says.

Active and continuous stakeholder dialogue enhances the quality and relevance of legal frameworks while accelerating the pace of innovation and entrepreneurship in digital markets, it adds.

Countries should also implement policies and interventions to promote the digital economy, entrepreneurship and investment.

Figure 1: Tanzania's score in cross-sector regulation in Africa, East African Community (EAC) and Southern African Development Community (SADC) regions

Indicator/sub-region	National regulatory governance		Policy design principles in the digital arena		Digital development toolbox		Digital economy policy agenda	
	2021	2023	2021	2023	2021	2023	2021	2023
Tanzania	14.81	14.81	12.96	13.89	11.42	16.67	5.56	9.88
SADC Average	13.65	16.14	7.90	8.30	10.08	12.30	6.31	7.57
East Africa Average	13.22	15.21	8.83	9.52	11.86	13.93	7.89	9.30
Africa average	13.24	15.43	7.19	7.78	10.34	12.15	6.74	7.73

TCRA to auction prime spectrum in July 2025

By Our Correspondent

The Tanzania Communications Regulatory Authority (TCRA) will auction four blocks of radio frequency spectrum in the 3600-3800 MHz band in July 2025, a regulatory milestone designed to accelerate Tanzania's digital economy agenda.



3600-3800 MHz

TCRA Director General Dr Jabiri Bakari said recently that the auction would advance the country's mobile and fixed broadband infrastructure and capability.

"This will catalyze the nation's economic development, particularly the digital economy, to facilitate the growth of all sectors," he explained.

The earmarked bands will enable superior mobile communications standards vital to Tanzania's strategy to lay firm foundations for a digital economy.

Stakeholder engagement starts in February 2025, he disclosed.

Dr Bakari noted that the spectrum would facilitate socio-economic benefits as mobile and fixed broadband will be key for promoting the efficient provision of services in many sectors.

These include education, health, agriculture, commerce, and financial services through information and communications technologies (ICTs).

He said the frequencies would extend mobile broadband services to a wider Tanzanian population.

It would also promote, enhance and facilitate innovations for new ICT services and technologies to be deployed in the band, he added.

"To ensure that consumers benefit fully from access to mobile broadband services with meaningful connectivity TCRA will include coverage obligations for all winners", Dr Bakari said.

TCRA has published an implementation timetable to allow stakeholders to start planning for the auction.

Pre-auction activities include publishing a Consultation Document (Draft information Memorandum) in February 2025 and stakeholder engagement activities up to June 2025, when the final information memorandum will be released.

The July 2025 spectrum auction will be TCRA's third and the second to be managed by its experts.

The release of the spectrum in the 3600-3800 MHz band for International Mobile Telecommunication (IMT) services follows the decision made at the World Radio Communication Conference (WRC) held in Dubai, United Arab Emirates, in 2023, in which Tanzania participated. The International Telecommunication Union (ITU) organized WRC 23.

TCRA auctioned 11 blocks of four prime radio spectrum bands for 187 million US dollars through an internally managed process in October 2022.

The 11 blocks spectrum were in the 700MHz, 2300 MHz, 2600 MHz and 3500MHz. Bands. Some were auctioned at almost three times the reserve prices.

The auction, designed and managed solely by TCRA's internal team, bore the hallmark of international best practices, from the design to the final award phase.

Tanzania's five leading mobile network operators participated, with four bagging spectra in different bands.

TCRA's first spectrum auction was in 2018 and involved two blocks in the 700 MHz band. Conducted through a consultancy, it built the confidence of the Authority's engineers, lawyers, economists and analysts.

Technology options for broadband services

By Christopher John Assenga

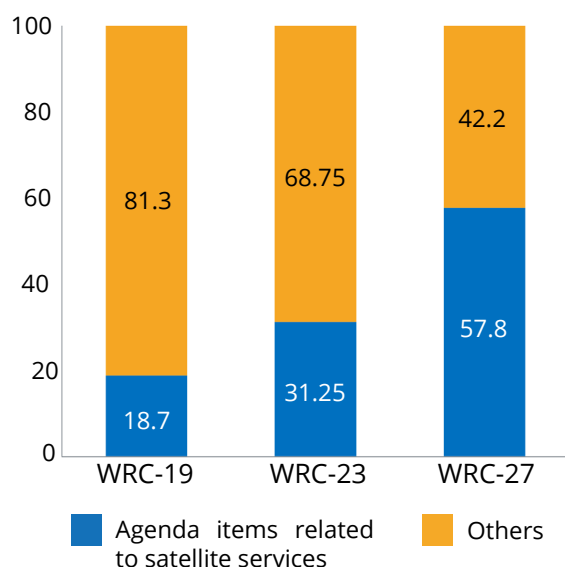
Space versus Terrestrial: The battle for spectrum supremacy

The telecommunications landscape significantly shifts from traditional terrestrial communication services to space-based alternatives.

This transformation is evident in the discussions and deliberations in the quadrilinear World Radio communication Conferences (WRC), organized by the International Telecommunication Union (ITU), which signal a growing interest in Space-centric communication solutions.

Figure 1 shows agenda item trends during previous and upcoming WRCs. The trend shows the shift in discussions at WRC.

Figure 1: WRC agenda items trend since 2019



The recent WRC-23 in Dubai, the United Arab Emirates, which focused on 40 agenda items, highlighted the growing competition for radio frequency spectrum between terrestrial and space-based services.

The focus predominantly fell on terrestrial-based services. Nineteen main agenda items, including agendas 1.1, 1.2, and 1.3, centred on identifying the radio frequency spectrum for terrestrial broadband services, particularly for International Mobile Telecommunications (IMT) and mobile services.

The outcomes of this discussion indicated a significant win for terrestrial services in securing vital spectrum allocation.

Looking forward to WRC-27, the competition will most likely become even more intense, with most agenda items directly related to satellite services. These agenda items will focus on requesting additional spectrum allocation or enhanced protection for satellite communication systems.

In particular, WRC-27 agenda item 1.13, which looks at possible new allocations on Mobile Satellite Services (MSS) for direct connectivity with IMT user equipment to complement IMT network coverage using bands already allocated to terrestrial component of IMT, is expected to be a focal point of contention, mirroring the intense battles witnessed in agenda items 1.2 and 1.5 during WRC-23.

This agenda item will likely see a clash between stakeholders advocating for the allocation of spectrum to satellite services and those seeking to protect and preserve spectrum allocated for terrestrial broadband services.

The shift towards space-based communication services reflects the growing recognition of the unique advantages offered by satellite constellations, such as global coverage, the closing of the digital divide, and low latency.

However, it also presents regulatory challenges as stakeholders navigate the complexities of spectrum allocation, interference mitigation, and equitable access to communication resources.

To navigate these challenges and promote innovations while regulating incumbent services, active involvement from policymakers and regulators.

Mobile Network Operators (MNOs) and other stakeholders are crucial; right from the inception of the WRC discussions, at the national and regional level, and WRC-27 itself.

Collaborative efforts are crucial to developing a robust framework that balances the needs of terrestrial and space-based services, promotes fair competition, and ensures efficient spectrum utilization for all stakeholders' benefit and global connectivity.

The ongoing competition for spectrum supremacy is expected to evolve alongside technological advancements, increasing demand for connectivity and affordability of the offered services, among others.

Rather than a clear winner emerging, it represents a dynamic interaction between space-based and terrestrial-based solutions addressing varied communication requirements in an ever-changing technological landscape.

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President Dr Samia Suluhu Hassan launched the '2Africa' international submarine cable in Dar es Salaam. Four submarine cables have landed in Tanzania, raising the prospects for Tanzania to become a regional communications hub.

ICT Innovations Centre for Tanzania

By Our Correspondent

Tanzania is establishing a centre to accelerate its digital transformation through innovations in information and communications technologies (ICT).

The Tanzania Communications Regulatory Authority (TCRA) Director General, Dr Jabiri Bakari, said the centre was among the measures to close gaps in digital innovations in the country.

He explained that it would accelerate local innovations and entrepreneurship, pillars of Tanzania's digital economy.

The International Telecommunications Union (ITU), the United Nations specialized agency for ICTS, will facilitate the centre, to be managed by the Tanzania ICT Commission.

ITU launched the digital acceleration centres as an institutional mechanism to build synergies among stakeholders in the innovation supply chain. The centres provide an inclusive approach to digital transformation.

The ITU Director of Telecommunication Development Bureau, Dr Cosmas Zavazava, says in the project concept paper that the centres would unlock more potential and open opportunities to more players, including struggling entrepreneurs.

The objective is to remove bottlenecks that frustrate innovators' aspirations of creating jobs and, hence economic growth.

He noted that the low uptake of digital services and products slows communities and affects social conditions and the achievement of national ambitions.

He added that the centres would promote collaboration among stakeholders, open up the digital innovations ecosystem and accelerate digital transformation.

The centres will close the digital innovation gap, which ITU says is among the main root causes of the digital divide. The latter is the difference in the availability, accessibility, affordability and usage of ICTs and services between different geographical areas and groups.



Innovation is a systems issue, where stakeholders must collaborate within and across sectors. Without this collaboration and coordination on initiatives, many ecosystems struggle to create impact and ensure sustainability

— Dr Cosmas Zavazava

The ITU Director of Telecommunication Development Bureau



2024 Global Innovation Forum (GIF) participants, Valetta, Malta October 2024. The event was preceded by a meeting of the Digital Innovations Board.

Accelerating digital ecosystem initiatives and improving ecosystem coordination at the national level enables countries to achieve better outcomes in key sectors.

New approaches are needed to mould the whole ecosystem and create meaningful initiatives, marshalling resources and expertise in a country's digital ecosystem.

This enables mechanisms to unlock digital potential through multi-stakeholder and multisector collaboration focused on national development priorities.

A more focused ecosystem accelerator can also be built depending on countries' needs. The governance model and implementation of each ecosystem accelerator depend on the country and the resources available, but the ultimate aim is the same for all.

The centres are the first step in establishing the Innovation and Entrepreneurship Alliance for Digital Development, which was launched in January 2023 to meet the needs of ITU members in innovation.

The Alliance has an 18-member governing body – the Digital Innovation Board, of which the TCRA Director General is a member.

Dr Bakari describes innovation as a critical transformation tool in today's dynamic digital technology environment. It is a vital component of the digital and blue economies.

TCRA promotes innovation and supports entrepreneurs with innovations designed to contribute to

Tanzania's digital economy agenda.

TCRA assigns communications resources free of charge for up to three months to innovators and emerging entrepreneurs to test the viability of their projects. These include numbers, codes, frequencies and internet addresses. An example is the shortcode *146*XXs which is assigned and temporarily issued for testing information and communications technologies (ICT) applications.

*146*XXs

Dr Bakari reiterated TCRA's call on Tanzanian innovators and start-ups to seize opportunities to test their projects.

The centre comes when Tanzania implements a 10-year Digital Economy Strategic Framework with innovation as a crucial pillar.

The framework, launched this year, emphasizes the importance of significantly improving or creating new ICT-based and enabled processes, services, or business models to transform Tanzania's economy.

Innovations enable the acquisition, adoption, and utilization of evolving digital technologies in the public and private sectors.

Innovations create jobs and enhance consumer experiences through new products and services, besides fostering economic growth. It also promotes entrepreneurship.



E-waste regulations amended for more effectiveness

By Our Correspondent

The Electronic Communications Equipment Standards and E-Waste Management Regulations have been amended, with additional obligations for manufacturers and importers of electronic equipment to be used in Tanzania.

The amendments, published in the Government gazette of 01/11/2024, have added definitions and guidelines for the type approval certification process. Other amendments are presented in the table below:

Regulation 17 outlines obligations for manufacturers. They include:

- a** Ensuring that electronic communication equipment that is introduced in the market is pre-inspected to verify whether or not they are type-approved
 - i.** Ensure that the equipment is not wasted and is compliant with the level of hazardous substances prescribed by relevant laws;
 - ii.** Ensure that the equipment is not wasted and is compliant with the level of hazardous substances prescribed by relevant laws;
 - iii.** Register with TCRA the details of the electronic communication equipment imported or manufactured in Tanzania
 - iv.** Provides information on the location of hazardous substances within the electronic communication equipment and procedures for dismantling electronic communication equipment upon reaching end-of-life
 - v.** Pays an advance eco levy fee prescribed in the Schedule to these Regulations for handling the end-of-life processes of electronic communication equipment.
- b** Manufacturers may-
 - i.** Establish take-back schemes and channels for the management of e-waste in line with the principle of extended producer responsibility; or

- ii.** Enter into formal agreements with licensed collectors, recyclers, refurbishers, or treatment facilities within or outside the United Republic.

The obligation of importers is listed in new regulation 17A, whose part 3 reads:

An importer shall not import used electronic communication equipment if such equipment-

- i.** Is destined for disposal or recycling;
- ii.** Shows defects which affect its functionality;
- iii.** Is worn or damaged, thus affecting the marketability of the item;
- iv.** That is destined for disassembly for spare parts; or
- v.** That has reached the end -of- life.

Regulation 18 amendments have added new Obligations for recyclers and refurbishers.

The consolidated version states that recyclers and refurbishers licensed to conduct their businesses in Tanzania shall-

- i.** Establish recycling or refurbishing processes and facilities that are environmentally sound;
- ii.** Ensure that recycling or refurbishing processes and facilities comply with national and international standards;



Ensure that the residues generated thereof during the recycling or refurbishing processes are disposed of to an authorized electronic waste treatment facility

- i. Enter into formal agreements with licensed collectors and electronic waste treatment;
- ii. Ensure that refurbished electronic communication equipment meets the requirements for type approval; and
- iii. Maintain and keep records of electronic communication equipment received for recycling or refurbishing and make such records available to the Authority."

Regulation 20 on the "Obligation of bulk consumers states consumers states:

A bulk consumer of electronic communication equipment shall-

- i. Separate electronic waste from other forms of waste to facilitate collection;
- ii. Sell or donate electronic communication equipment that has reached the end of life to licensed collectors, refurbishers, recyclers or authorized collection centres;
- iii. Return electronic communication equipment that has reached its end-of-life to authorised collectors;
- iv. Follow recommended disposal processes for electronic communication equipment when they reach their end -of l-life
- v. Put in place an internal policy to facilitate electronic waste management;

- vi. Maintain and keep records of electronic communication equipment that have reached their end of life and make such records available to available to the Authority when required;

Support the provision of awareness and consumer education on electronic waste management;

- i. Enter into formal agreements with licensed collectors, refurbishers, recyclers or treatment facilities; and
- ii. Support the formation of collection centres for electronic waste."

Regulation 21 lists TCRA's obligations.

It states that the Authority shall:-

- i. Designate an external service provider for the pre-inspection and collection of advance eco-levy fees for electronic communication equipment imported into the United Republic through a competitive process;
- ii. Keep a register of details of manufacturers and importers of electronic communication equipment used in Tanzania;
- iii. Maintain a database of electronic communication equipment authorized for use in Tanzania
- iv. Facilitate the development of internal policies for electronic waste management for bulk consumers;
- v. Formulate a project for the proper utilization of the collected eco levy fees concerning the management of the end-of-life processes of electronic communication equipment; and conduct awareness and provide consumer education on e-waste management.



TCRA updates stakeholders on e-waste management

By Our Correspondent

Tanzania has introduced measures for sustainable e-waste management initiatives. These include a levy to offset the costs of disposing off end-of-life imported electronic communications equipment.

TCRA Director General Dr. Jabiri Bakari explained that regulatory measures include implementing 2020 electronic communication Standards and E-Waste management regulations.

E-waste refers to electronic equipment, including components and sub-assemblies, that have reached the end of their life or are damaged and unusable.

Proper e-waste disposal prevents hazardous substances and toxic elements in communications equipment from endangering human health and the environment.

The 2020 regulations outline the obligations of parties involved in managing electronic communication equipment end-of-life processes.

They apply to manufacturers, importers, recyclers, refurbishers, consumers and bulk consumers.

Manufacturers and importers are required to ensure they channel end-of-life electronic communication equipment to licensed used equipment dealers. These include collectors, recyclers, refurbishers or certified electronic waste treatment facilities.

They must also furnish TCRA with the particulars of imported or locally manufactured/assembled electronic communications equipment. They are required to pay an advance eco-levy.

Additionally, they must ensure that imported electronic communication equipment has not reached its end of life before entering Tanzania.

Formal agreements must also be reached with licensed collectors, recyclers or refurbishers of end-of-life electronic communication equipment.

Under the new arrangement, applications for the importation of electronic communication equipment shall be filed through <https://verigates.tcra-bureauveritas.co.tz> to allow for the declaration of details of equipment to be imported in advance.



Electronic communications equipment destined for Tanzania is pre-inspected at the source. An advance levy is charged to manage the disposal of used communications equipment.

The eco levy is an end-of-life disposal fee introduced to hold electronic equipment producers accountable for the entire lifecycle of their products.

All electronic communications equipment destined for Tanzania is inspected in the country of origin. They also must be type-approved by TCRA.

TCRA also licences importers and distributors of the equipment.

Importation of electronic communication equipment requires an importation license and imported electronic communication equipment. The equipment must be assessed and type-approved for conformity and interoperability in networks.



Once an application is filed, an assessment for advanced eco-levy fees shall be made to allow for other processes, including inspections.

— **Dr Jabiri Kuwe Bakari**

TCRA Director General

Tanzania follows international best practices in managing electronic waste. The registration and inspection of communications equipment in the country of origin confirm the Basel Convention on the Control of Trans-Boundary Movements of Hazardous Wastes and their Disposal.

Members of the East African Communications Organization (EACO) have an e-waste management strategy with the target of zero negative impact of e-waste within the member states by 2030.

The strategy, approved at a TCRA-hosted EACO conference in 2023, seeks to develop e-waste management infrastructure roll-out plans in the region and coordinate programmes.

It also seeks to have mechanisms for collection, transportation and disposal of e-waste, including door-to-door collection.

Dr Bakari recently met and updated Tanzania's leading electronic communications equipment importers on the eco-levy, and their obligations.



Inside a Tanzanian e-waste recycling plant

Navigating Deepfake Mirages

In the digital age, the line between reality and fabrication blurs with the advent of deep fake technology, a burgeoning concern that poses significant threats to individual privacy, security and the fabric of truth in society.

This technology, which leverages sophisticated artificial intelligence (AI) and Machine Learning to create hyper-realistic videos, texts, audio recordings and outputs, has made its way into the hands of both innovators and malefactors, setting the stage for a new era of misinformation.

Deepfakes, derived from deep learning and fake, are products of machine learning algorithms that manipulate or generate visual and audio content with a high potential to deceive.

This technology has a benign inception rooted in academic research and entertainment, but its potential for abuse has sparked widespread concern across the globe, and our communities are no exception.

Technological Marvel and Menace

Ezra Mmakasa, an ICT expert at the Tanzania Communications Regulatory Authority (TCRA), explains that deepfakes involve training neural networks with vast amounts of data.

This process enables the technology to accurately replicate the appearance and voice of specific individuals, resulting in convincingly realistic yet entirely fabricated videos and audio recordings.

While these technological advancements can be awe-inspiring and highlight remarkable progress, they pose significant risks, providing powerful tools for cybercriminals and propagandists.

“Deepfake technology can make it seem like anyone is saying anything at any point in time, even if they never would say such things,” explains Silas Makweta, a Dar es Salaam-based ICT and cybersecurity expert.

“In the wrong hands, this can lead to numerous dangers such as political misinformation, fraudulent activities, and personal harassment, he explains”.



Ethical Dilemmas and Societal Impact

The ethical implications of deepfakes are profound. They raise questions about consent and privacy, as individuals find their likenesses used without permission, potentially damaging reputations and spreading falsehoods.

In our communities, where the socio-economic and political scene is vibrant and the media landscape is dynamic, the impact of such technology could be destabilizing.

The use of deepfakes in politics, for instance, could alter the course of elections by spreading disinformation about candidates, manipulating public opinion with counterfeit endorsements, or false admissions.

The societal trust that forms the backbone of Tanzanian democracy could be eroded, leading to increased scepticism and tension among the people.

Legal Framework and Countermeasures

Like many other nations, Tanzania is grappling with the legal challenges posed by deepfakes. Laws on defamation, privacy, data protection and copyright might not be fully equipped to handle the nuances introduced by AI-generated content.

“There is an urgent need for specific legislation that addresses the unique aspects of deepfakes, ensuring that victims have clear legal recourse. The best way to do it is to ensure enforcement of the outcomes that tag along with deepfakes,” emphasized Emmanuel Chengula, an advocate of the High Court of Tanzania based in Iringa.

Globally, countries are increasingly implementing laws to address the malicious use of deepfakes. Similarly, the International Telecommunication Union (ITU) and communication societies worldwide are working to align on the enforcement and regulation of AI and its impacts.



For example, California in the United States has enacted laws criminalizing the distribution of deceptive deepfake videos within 60 days of an election.

Such proactive measures may also be essential in other regions, including East Africa, to protect the integrity of electoral processes and safeguard citizens' privacy.

Defending Against the Digital Deceit

Technological solutions are at the forefront of combating deepfakes, focusing on detecting and debunking synthetic media. Advanced AI tools can now analyze videos and audio to spot discrepancies and unnatural patterns with growing accuracy.

However, human intellect remains crucial in evaluating the authenticity of media content before consuming it.

In our communities, local tech firms and universities are collaborating to develop AI-driven solutions to tackle this issue, marking significant progress. The regulatory sector is also taking steps to address the challenge, while public awareness remains vital.

Educating Tanzanians about deepfakes and their risks is essential for creating a discerning audience capable

of questioning and verifying digital content. Media literacy campaigns, workshops, and seminars can equip citizens, journalists, and officials with the skills to identify and respond to deepfakes effectively.

Real Incidents and Preventative Tales

Globally, there have been several high-profile incidents involving deepfakes that serve as cautionary tales. One notable instance involved the fast spread across social media platforms of a deepfake video of a world leader declaring war, which was debunked. Such incidents underscore the potential chaos from unchecked deep fake dissemination.

While there have yet to be major public scandals involving deepfakes in Tanzania, the potential exists. A proactive approach to policymaking and community engagement is required to prevent such scenarios, while legal enforcement agencies stay vigilant by embracing technological advancements and continuously upgrading their skills.

Looking Forward

As deepfake technology evolves, strategies to counteract its negative impacts are vital. This involves not only technological advancements and legal frameworks but also a societal commitment to maintaining the line between fact and fiction.

By fostering a well-informed public, enacting targeted legislation, and supporting technological innovation, we can navigate the challenges of deepfakes. As citizens, our ability to adapt to and overcome these digital deceptions will be crucial in safeguarding our collective future.

Deepfakes pose a serious challenge to ethical standards and truth in society. Our communities should take the lead in technological preparedness and robust regulatory frameworks.

By tackling this issue proactively, we position ourselves as a model of resilience and innovation in confronting digital threats, continuing our country's legacy as a leader among African nations in strengthening cyberspace threats.

Home internet takes root, more Tanzanians use smartphones

By Our Correspondent

The penetration of smartphones to 36 per cent of the population, a 34 per cent increase in home internet of attempted frauds on mobile phone networks home internet connections and a 16 per cent reduction highlight the October-December 2024 communications status report.

The report, released by the Tanzania Communications Regulatory Authority (TCRA) Director General, Dr Jabiri Bakari shows that one mobile money services provider had the highest ratio of transactions per mobile money account despite losing. 58 per cent of its subscribers.

Quality of service inspection showed repeated breaches of regulations and licence conditions by broadcasting content service providers and postal and courier service licensees. TCRA has taken regulatory action against these.



Smartphones increase to accelerate internet use

The penetration of smartphones among the population has increased by 11 percentage points in two years as third and fourth mobile phone generations (3G and 4G) are now accessed by 89.5 per cent of the population.

Smartphone penetration among Tanzanians increased from 25 per cent in 2022 to 36 per cent in December. These devices facilitate high-speed internet access.

3G technology has penetrated 91 per cent of the population, and 4G to 88 per cent. Five G penetration was 22 per cent in December.

Home internet connections taking root in Tanzania

The delivery of high-speed internet to homes is taking root in Tanzania, with connections increasing by 35 per cent in 12 months.

Fibre to the home (FTTH) subscriptions grew from 61,645 in January to 83,201 in December.

Fibre (FTTH) subscriptions up by %



An analysis shows that although the number is small, the growth rate is above the 33.63 growth of mobile broadband subscriptions.

Internet subscriptions increased by 32.63 per cent last year, from 36,211,559 in January to 48,028,227 in December.

These connections, including through SIM cards and fixed lines, that have accessed and used internet services in the last three months, regardless of the technology.

Fibre optic cables, which facilitate FTTH and offer faster speeds - are ideal for high-volume data consumption, including quicker downloads, video streaming, and gaming.

The TCRA statistics show that internet subscribers using FTTH technology could download and upload data three times faster than mobile broadband users.

Between September and December 2024, FTTH broadband data downloading and downloading speeds were 31.8 and 40.9 mMegabytes per second (Mbps), respectively, compared to 10.8 and 13.2 for mobile broadband.

FTTH's main disadvantage is its relatively higher installation costs, which differ according to location since fibre optic cables may not be available everywhere Internet subscriptions increased by 16 per cent between September and December 2024, from 41,376,545 to 48,028,227.

Internet subscriptions increased by 16 per cent between September and December 2024, from 41,376,545 to 48,028,227.

Average data usage per subscription was 4.49 gigabytes (Gbs) compared with 4.35 in September.

However, Tanzania’s internet subscribers use only 10.9 per cent of the available capacity for local and international outgoing and incoming traffic.

The outgoing and incoming capacity is 17,200 Gbps, while only 1,868 are activated, leaving 15,332 available for new activation.

The report shows that registered domains with Tanzanian names increased from 31,584 in September to 32,267 in December 2024. They increased by 11.24 per cent from 29,006 in January last year.

Table: Mobile money accounts and transactions – December 2024

Service provider/ Brand	Accounts	Transactions	Transactions per account
Airtel	10,659,153	104,187,370	10
Azam Pesa	32,418	1,638,250	51
Halotel	5,696,951	39,059,824	7
Yas	19,384,781	96,396,871	5
TTCL	1,508,952	633,850	*
Only 42 per cent of accounts transacted			
Vodacom	24,600,244	136,898,193	6
Total	61,882,499	378,814,358	6

Mobile money mixed performance

Mobile money accounts increased by 19 per cent and transactions by 25 per cent between March and December 2024, with mixed performance among service providers.

The October –December communications statistics, released by TCRA Director General, Dr Jabiri Bakari

show that 52,990,091 mobile money accounts made 883,007,283 transactions in six networks in March 2024 compared with 63,207,569 accounts which made 1,100,700,205 transactions in December.

Six licensees provide mobile money services in Tanzania. They are Airtel (Airtel Money), Azam (Azam pesa), Halotel (Halopesa), TTCL (T-pesa), Vodacom (M-pesa), Yas (Mixx).-) – formerly Tigo Pesa.

An analysis of the December figures shows that Azam Pesa had the highest accounts-transactions ratio, while half of TTCL’s accounts did not transact between October and December.

Azam Pesa had 32,418 accounts, which made 1,638,250 –an average of 50.53 transactions per account. The company had 72,248 accounts in September 2024.

T-pesa had 1,508,952 accounts, which made 633,850 transactions.

Mobile fraud down but Kilombero still notorious

Reported attempted and committed frauds on mobile phone networks fell by 16 percent between September and December, from 16,002 to 12,896.

However, they increased in Kilombero district in Morogoro region and in some of the mobile networks.

Kilombero, with 4,101 reported cases, accounts for 32 per cent of all reported attempted and committed frauds countrywide. They increased by 214 per cent, from 1,306 in September.

The other notorious districts are Sumbawanga Urban and Rural in Rukwa region, with 29 per cent of all incidents.

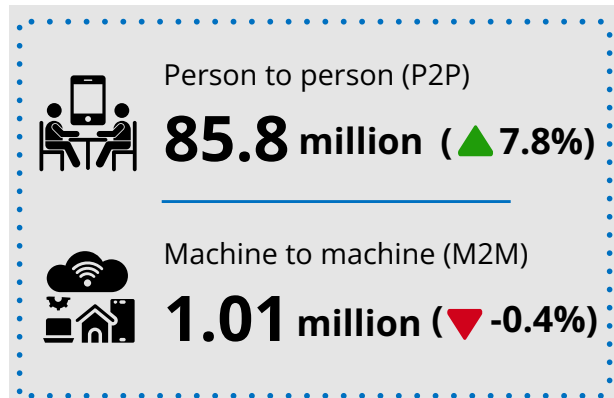
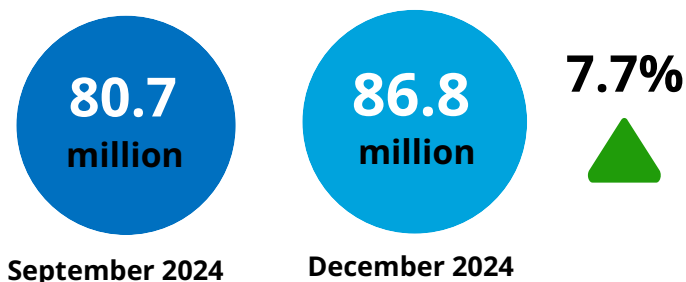
Most reported incidents were on the Airtel network, (5,187), having increased by 52 per cent from 3,408 in September 2024. Vodacom has 2,901 and TTCL 2,391. The latter’s increase was by 12.4 percent - from 2,127.

Although Yas, former Tigo, has 1,663, the network has reduced the September 2024 menace by 400 per cent – from 6,581.

Vodacom has reduced incidents by nine (9) per cent, from 3,175 to 2,902.

Communication Statistics in figures

Telecom subscriptions recorded a sharp growth in quarter ending December 2024



47.2%

or **nearly half** of the total subscribers in Tanzania are in six regions of Dar es Salaam, Mwanza, Arusha, Mbeya, Dodoma and Morogoro.

There were more male subscribers than female in a quarter ending December 2024

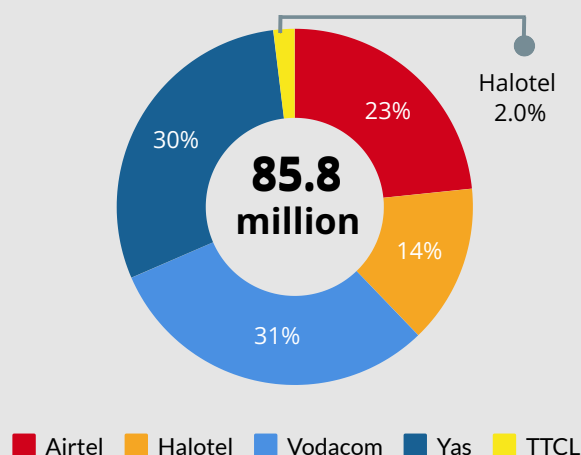


44.6 million
(51.4%)

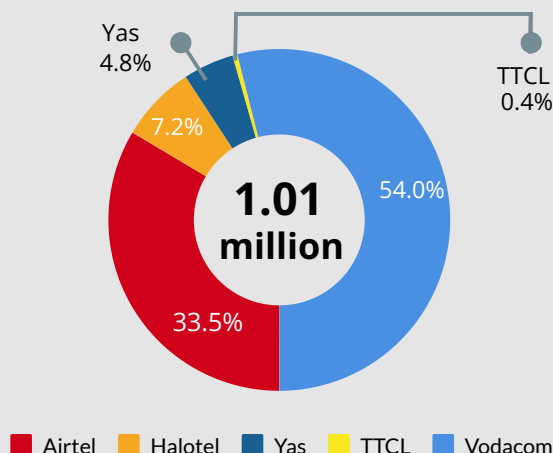


42.2 million
(48.6%)

Operators' market share by subscriptions for Person to person (P2P)



Operators' market share by subscriptions for Machine to machine (M2M)



USER DEVICES AS OF DECEMBER 2024



Mobile phone/feature phone

56.86 million

Penetration: **87.4%**

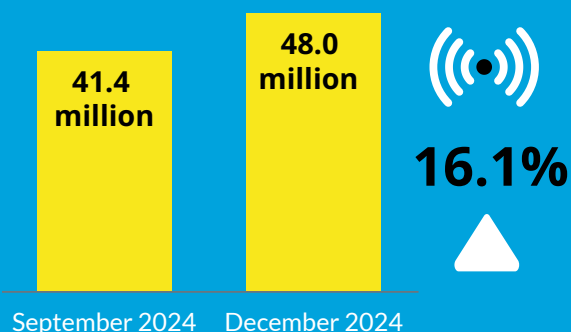


Smartphones

23.41 million

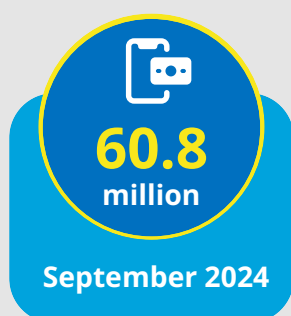
Penetration: **36%**

INTERNET SUBSCRIPTIONS

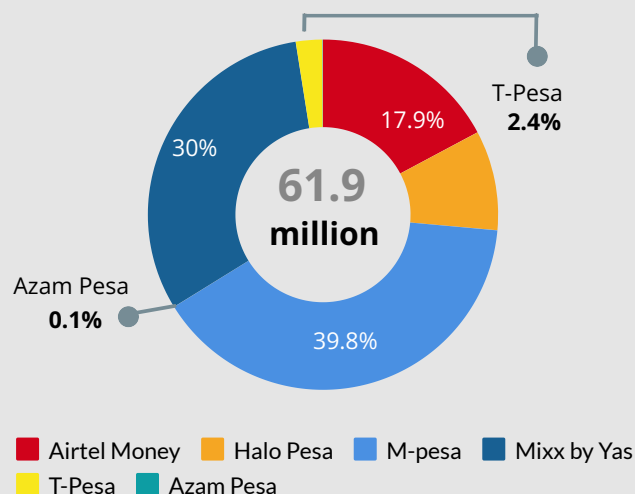


Mobile money subscriptions jumps quarter ending December 2024

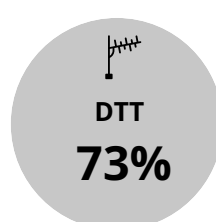
Mobile money subscriptions increased by 2% in the quarter ending December 2024



Market share on mobile money subscriptions



Broadcasting Services at glance



Total number of active decoders
2,148,763

Dar es Salaam leads with 703,580 active decoders equivalent to **33%** of the total active decoders, followed by Mwanza with 176,792 active decoders, Mbeya (148,000) and Arusha with 137,534 decoders.

Number of active decoders per operator as of December 2024

Operator	DTT	DTH	Total
Agape Associates Limited	1,840	0	1,840
Azam Media Limited	294,775	1,045,360	1,340,135
Basic Transmissions Limited (Digitek)	15,000	0	15,000
Basic Trasnmissions Limited (Continental)	36,413	31,250	67,663
Multichoice Tanzania Limited (DStv)	0	225,263	225,263
Star Media Limited	232,494	245,033	477,527
Zuku	0	21,335	21,335

Effective frameworks drive transformative growth

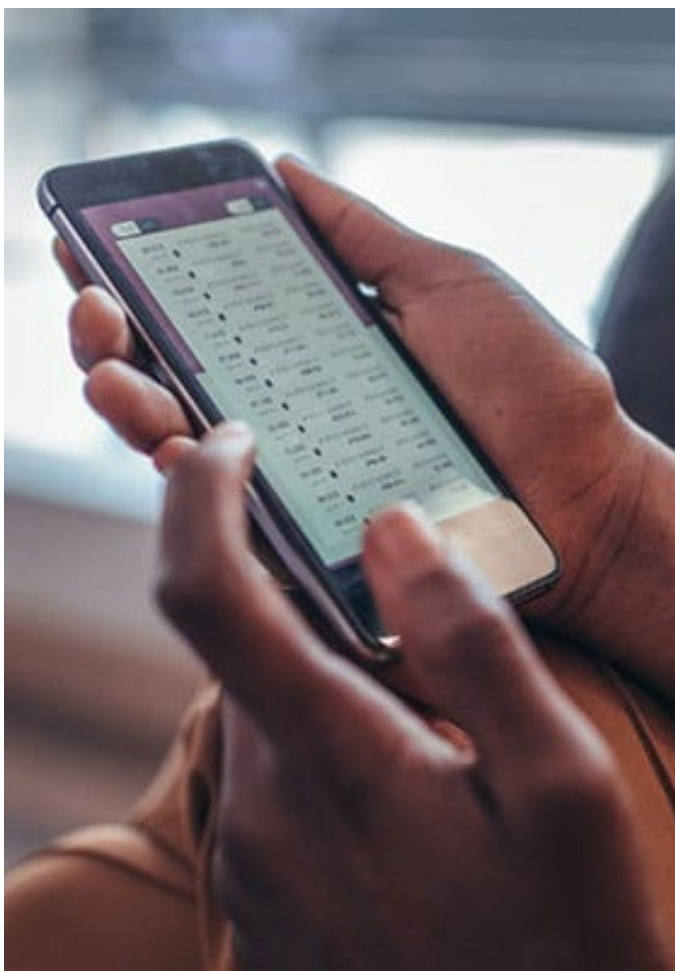
By Our Correspondent

Most indicators in Tanzania's communications sector show a growth of at least 20 per cent between January and December 2024, with exceptional ten-fold increases in some areas.

SIM card registration, internet subscription, fifth-generation (5G) mobile technology penetration, and community radios are areas with above 20 per cent increases.

Active SIM cards increased by 25 per cent – from 70,035,043 to 87,448,346; internet subscriptions by 33 per cent – from 36,211,559 to 48,028,227 and the percentage of 5G penetration among the population from 13 to 50.

Smartphones have penetrated by 36 percent, from 32 in January 2024.



Electronic equipment type approval certificates increased by 119 per cent, from 2,175 to 4,774. Mobile satellite phone registration increased 11 times, from four (4) in January to 42 in December.

There were notable increases in the new licences TCRA started issuing following amended sector regulations in 2023 and 2024. The changes introduced several subcategories under the original four main licence types.

TCRA had issued 37 application service licences for electronic commerce services and five (5) for cyber security services by December 2024.

The performance is attributable to TCRA's effective and efficient sector regulation.

This has raised Tanzania's standing in international communications bodies. (Refer to related articles on preceding pages).

Tanzania is first in East and Central Africa and among the world's 46 leading countries in cyber security excellence, according to the 2023 Global Cybersecurity Index (GCI), released by the International Telecommunication Union (ITU) in September 2024. It is among 25 countries that have demonstrated a firm commitment to cybersecurity.

TCRA continued to support innovations in the communications sector. The Authority temporarily assigns communications resources free of charge to individuals and companies to test their projects.

The Authority also promoted the establishment of digital clubs in schools and tertiary institutions as part of building a digital culture at all levels.

TCRA is implementing the following studies:

Area	January 2024	March	June	September	December	Increase	Percentage of increase
1. Active SIM cards							
Total	70,035,043	72,418,634	76,529,446	80,662,041	87,448,346	17,413,303	24.86
Penetration		112	116	124	134%	22 pts	
Interpersonal (P2P communication)	70,112,342	72,496,095	75,588,006	79,646,221	86,381,780	16,269,537	23.20
Machine-to-machine (M2M communication)		929,683	962,928	1,015,820	1,066,566	136,883	14.72
2. Internet services							
Subscriptions are defined as the total number of lines, including SIM cards and fixed lines, that have accessed and used internet services in the last three months, regardless of the technology							
Subscriptions	36,211,559	36,771,612	39,311,477	41,376,545	48,028,227	11,816,668	32.63
2B. Subscriptions by technology							
Mobile broadband subscriptions	35,815,632	36,687,794	39,154,908	41,242,748	47,859,272	12,043,640	33.63
2C. Other technologies							
Fibre to the home (FTTH) connections	61,645	49,163	50,398	59,743	83,201	21,556	34.96
Fibre to the office (FTTO) connections	8,315	5,126	5,732	10,449	12,113	3,798	45.67
2 D. Quality of internet speed in megabytes per second (Mbps)							
Uploading speed							
Mobile broadband	6.14	11.1	12	12	14.9	8.76	42.67
Fixed broadband	32.9	35.1	35	35	36	3.1	9.42
Downloading speed							
Mobile broadband	11.03	11.4	12	12	14.9	3.87	35.08
Fixed broadband	34.11	40	42.1	40	42.4	8.29	24.30
3. Network coverage (3G,4G,5G)							
Percentage of the population covered by 3G	86	88	89	90.1	91	5	5.81
Percentage of the population covered by 4G	79	80	83	84.9	88	9	11.39
Percentage of the population covered by 5G		13	15	18	20	7	53.84
Percentage of 3G geographical coverage	70	72	73	73.6	74	4	5.79
Percentage of 4G geographical Coverage	63	64	69	70.2	71	8	12.69
Percentage of 5G geographical Coverage		1	2	2.2	2.5	1.5	150

Area	January 2024	March	June	September	December	Increase	Percentage of increase
4. Mobile money services							
Mobile money accounts	52,973,700	52,990,091	55,523,067	60,815,533	61,882,499	8,908,799	16.18
5. Fraud on mobile networks							
Reported attempted mobile network fraud	20,939	17,318	22,257	16,002	12,896	7,819	37.34
6. Broadcasting							
Active digital terrestrial television (DTT) and direct-to-the-home (DTH) decoders	3,661,976	3,752,170	3,843,694	2,175,810	2,148,763	1,513,213	41.32
Cable television subscriptions	16,223	15,781	18,820	19,153	16,767	544	3.35
Percentage of the population covered by DTT signal	56	56	58	58	2 pts	2.83	
Percentage of the population covered by DTH signal	100	100	100	100	100		
Percentage of the population covered by FM broadcasting signal			75.85	75.52	78	78	2.15
Percentage of the geography covered by DTT signal			32	32	33	33	1
Percentage of the geography covered by DTH signal		100	100	100	100		
Percentage of the geography covered by FM broadcasting signal	55.14	49.9	56.5	56.5	1.36		
7. Postal and courier services, Indicators show up and down trends.							
7A. Items posted locally							
Documents	138,981	139,419	223,997	169,415	146,004	7023	5.5
Letters	469,055	1,101,230	155,831	166,590	168,983	299,072	
7B. Items posted to other East African countries and the rest of the world							
Documents	12,290	13,420	9,456	8,690	9,075	3,215	
Letters	143,145	84,477	33,934	15,078	43,998	99,147	
8. User devices connected to operators' networks							
Mobile Phone/Feature phone	85.62%	85.56%	82.60%	84.83%	87.39%	1.77%	41.32%
Smartphone	33.13%	32.59%	31.55%	33.85%	35.99%	3.86%	
Handheld	2.75%	2.68%	2.49%	2.44%	2.50%	0.25%	
Modems	0.95%	0.98%	0.97%	1.00%	1.02%	0.07%	
Tablets	0.65%	0.67%	0.68%	0.67%	0.74%	0.09%	

Area	January 2024	March	June	September	December	Increase	Percentage of increase
WLAN rout	0.18%	0.21%	0.22%	0.27%	0.32%	0.14%	
Dongle	0.16%	0.17%	0.15%	0.15%	0.15%	0.01%	
Internet of Things (IoT) devices	0.15%	0.19%	0.19%	0.21%	0.32%	0.17%	
9. Tanzania top-level domain (dot tz) names							
Domain name	29,006	29,968	30,698	31,584	32,267	3,261	11.24
10A. Cumulative licences by December 2024 (telecommunications)							
Network Facilities Licences	36	35	34	35	37	1	2.71
Network Services Licences	17	14	15	16	18	1	5.88
Application Services Licences	146	135	142	146	155	9	6.15
Cyber security services				33	37	4	12.12
Applications service - electronic commerce				5	5		
Aircraft Stations	163	171	169	176	178	15	9.20
Fixed VSAT Terminals	47	45	42	36	36	11	23.40
Mobile VSAT Terminals	2	2b	2	2	2		
Satellite Ground Earth Stations	1	1	1	1	1		
Ship Stations	45	47	35	36	30	5	33.33
HF Radio Stations, VHF- UHF Radio Repeaters, VHF - UHF Radio Station with Pair of Frequency, VHF - UHF Radio Station with Single Frequency							
Number of licences	348	342	335	316	318	30	-8.6
Numbering	533	536	576	493	200	333	62.47
Global Maritime Distress and Safety Systems	103	132	152	177	196	93	90.26
Electronic equipment type approval	2,175	2,281	2,426	4,590	4,774	2,596	119.49
Registration of Satellite Mobile Phones	4	12	32	32	46	42	(1050)x11
10B. Cumulative licences by December 2024 (broadcasting)							
National Content free to air (FTA) television	17	16	16	16	17	0	
District Content free to air (FTA) television	20	24	23	22	21	1	5
National Content Radio Licences	13	14	14	14	14	1	7.69
Regional Content Radio Licences	32	31	31	33	33	11	3.1

Area	January 2024	March	June	September	December	Increase	Percentage of increase
District Content Radio Licences	165	169	177	182	186	21	12.72
Community Radios	11	17	15	17	11	6	54.54
National Content Televisions by Subscription	10	16	25	28	28	18	180
District Content Televisions by Subscription	2	9	1	1	1	1	50
Cable television	56	60	63	63	58	2	11.53
National Content (support services)	3	3	3	3	3		
10C. Cumulative licences by December 2024 (Online content services)							
Online Content Aggregators	3	3	5	6	6	3	
Webblogs (blogs)	60	67	64	66	66	6	10
Online Radios	6	7	9	10	10	4	66.66
Online Televisions	220	231	215	210	199	21	9.54
10D. Cumulative licences by December 2024 (Postal and courier services)							
International Courier	6	6	8	6	6		
East Africa Courier	1	1	2	2	2	1	100
Intercity Transporters	50	65	71	76	79	29	58
Intracity Courier	14	15	18	16	18	4	28.87
Public Postal operator	1	1	1	1	1		
Domestic Courier	45	46	46	47		2	4.44





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