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| Contribution from Ghana, Kenya (Republic of), Uganda (Republic of), South Africa (Republic of), and Tanzania (United Republic of) |
| NEW TRENDS IN TELECOMMUNICATIONS/ICTS AND EMERGING ISSUES IN INTERNATIONAL TELECOMMUNICATIONS/ICTS ENVIRONMENT WHICH MAY IMPACT THE ITRS |
| **Purpose**This contribution discusses new trends in international Telecommunications/ICTs services relevant to be considered for the review of the ITRs. This is in line with 2(a) of the ToR of the EG-ITRS.**Action required**This document is submitted to EG-ITRs **for consideration** in the next meeting, taking into account the adoption of the work plan. |

**Introduction**

For many years, there have been a lot of technological changes and trends impacting international Telecommunications/ICTs services. The ITU, a global body to supervise the provision of international Telecommunications/ICTs services through the administration of global treaties (eg. ITRs or Constitution) is struggling to find a common ground on appropriate provisions to be decided for international Telecommunications/ICTs development. Previous two expert groups were constituted to resolve matters arising from the 2012 ITRs to no avail. A 3rd one was set up in July 2023 with the ToR and to provide recommendations to PP-26 through Council. One of the ToRs for the group is to address *new trends in Telecommunications/ICTs/ICT and emerging issues in international Telecommunications/ICTs environment which may impact the ITRs*. This multi-country contribution discusses few of the new trends listed below.

***Review of the ITRs, taking into account new trends in Telecommunications/ICTs and emerging issues in international Telecommunications/ICTs environment which may impact the ITRs***

The changing Telecommunications/ICTs environment and issues related to it, if not addressed in binding international instruments will cause instability for ITU members and international legal framework needed to regulate these new trends. This may impact global economic trade and growth. The existing regime is not only archaic but also insufficiently adapted to a world where economies and policies are interdependent.

The attempt to represent these new trends and emerging issues in the instruments is a move towards having a revamped harmonized framework which will amongst other changes reflect human-centric considerations in the face of the dynamic environment.

The ITU attempted to address these issues in the 2012 ITRs but Member States did not reach consensus due to the inclusion of certain provisions that did not sit well with some members particularly developed countries. This has resulted into the use of two ITRs, (1988 and 2012) to address international Telecommunications/ICTs issues. The previous two expert groups constituted by the ITU Council to resolve issues arising out of the 2012 ITRs also proved futile.

For example, in the 2016-1018 expert group report, some members were in favour of the regular review of the ITRs given the current trends in the Telecommunications/ICTs market. Developing countries in particular were concerned with the total blurring of traditional Telecommunications/ICTs services brought about by advances in technology and the advent of new trends in international Telecommunications/ICTs - essentially converged telecom and Internet services as well as the rapid growth of OTTs in particular. Special attention was also given to new technologies such as Internet of Things, Blockchain, Big Data, Artificial Intelligence, Cloud Computing, and so on.

They maintained that issues such as privacy and data protection; the deployment of new technologies and services; providing basic principles for fair competition between different services using traditional and new technologies; protection of critical information infrastructure; protection of Telecommunications/ICTs systems from unauthorised use, unsolicited bulk electronic communications; cybersecurity among others have to be treated at the international level. The consideration of these issues in the ITRs promote regulatory consistency and generate trust in international Telecommunications/ICTs. This multi-country contribution seeks to discuss some of these new telecom trends and their impact on economic growth.

**1. Internet of Things**

IoT devices and sensors influence almost all industries of the technology economy in the world. It improves people’s quality of life, allows businesses to increase their profits. Data is collected from IoT devices for the purpose of making the world a safer, healthier, and more productive place. The amount of data Telecommunications/ICTs companies is predicted to have to handle is massive. Tech analyst IDC predicts 41.6 billion connected IoT devices will generate 79.4 zettabytes of data by 2025. The question is how would this data be managed and protected, in the world taking into consideration people’s privacy This therefore call for an updated harmonized framework with user-centric considerations in the face of increased connectivity, emerging technology and divergent data governance approaches/strategies.

**2. Connectivity Technologies (FTTH, 5G and Satellite)**

Connectivity technologies are constantly evolving and include both wired and wireless communications. The development of communications technology is critical in today’s Telecommunications/ICTs environment, with increasing demand for data volumes, speed, IoT devices, access to Internet as well as increasingly share high-quality digital data, such as videos, photos, and music. These factors call for the equitable distribution and usage of resources with the view to transforming the lives of people and achieving the 2030 SDGs.

**3. Artificial Intelligence**

Artificial intelligence (AI) and machine learning (ML) are other technological advancements impacting the industry. Digital transformation requires the extraction of meaningful information from data gathered by IoT sensors and devices. The world is already witnessing opportunities and threats of AI in society. The world is fascinated by AI’s ability to solve complex problems, enhance human capabilities, and create new forms of art and entertainment. However, there are also concerns about the threats posed by AI, such as the lack of transparency in algorithmic decisions, undermining privacy and human dignity, as well as job losses arising from increasing automation.

AI has to be human-centric and align with our goals, but also has to be autonomous and creative. The cautious and skeptical side of AI should prioritize safety, ethics, and responsibility over speed and innovation. AI concerns are universal affecting humans and organizations.

Noting the adoption of the Resolution on AI during PP-22 (Bucharest, 2022) there is an increased need for the instruments of the Union to reflect at a high-level, key concerns and remedial measures as the world seeks to adopt and implement such new technological advancements. There should therefore be a global dialogue and exchange of different perspectives and interests to foster more ethical and responsible AI development and deployment.

**4. Cybersecurity**

Cybersecurity is an important aspect in the use of Telecommunications/ICTs as the global community looks at agreements on strategies, policies, development, standards and recommendations on securing cyber and cyber-related assets. Some of these concerns include the absence binding provisions to work on mitigating or reporting vulnerabilities and malicious activity or knowledge.

There is also a concern as there are many new and emerging Telecommunications/ICTs technologies and also in cybersecurity that have to be considered in a review of ITRs to ensure that these technologies have benefits for Member States.

There should be coordinated efforts towards establishing industry standards and regulations to ensure that online platforms and services are safe. Without Multi-Member States coordination, cybersecurity efforts may be fragmented, with different Member States and Organisations working in isolation. This could lead to inefficiencies and gaps in building trust and confidence in the global use of Telecommunications/ICTs.

International collaboration is crucial in addressing cross-border threats and challenges in cybersecurity, as it is a global issue that requires unified efforts; without such collaboration, it might be harder to effectively cooperate across borders.

Without the review of the ITRs to include these new and emerging techs, the much-touted UN 2030 SDGs will be a mirage as most of the goals are hinging on equitable distribution of international resources like the Internet, numbering, and identification, cybersecurity, infrastructure among others.

**5. Technological Evolution**

Voice service technology has evolved from 2G, 3G, VoLTE and now moving to Voice over New Radio enabled by 5G. In addition, the introduction of IP technology and the impact of the Internet has resulted in a move away from reliance on traditional voice service revenues through the introduction of VoIP voice services (also referred to as over-the-top or OTT services). International, national, and local voice revenues have come under tremendous pressure due to the use of OTT services. This has led to Telecommunications/ICTs service providers having to rely on alternative sources of revenue, which are data driven, requiring reliable international connectivity with higher network speeds and redundancy in the form of international undersea cables, cross border fibre links, and satellite connectivity.

In most African countries, the undersea cable capacity has increased with the landing of several new cable systems in recent times. This increases international bandwidth and will facilitate services which require more data throughput. There has also been a significant increase in the number of data centres in most Africa countries. Many of these data centres link to the undersea-cable capacity, which is facilitating new international telecommunication services and platform and service competition. This in turn is creating new data analytic opportunities. These data hosting centres become the bedrock for platforms hosting to store data for backup, redundancy, and processing purposes. Hyper scaling of hosting technology and platforms will see these hosting centres become more concentrated and power hungry. At the same time, this is given rise to new types of services such as IaaS (Infrastructure as a Services), PaaS (Platform as a Service) and SaaS (Software as a Service), with data forming the life blood of this entire echo system, which will form the heart of the new information society.

Interoperability between these platforms and new services will see the need for greater standardisation of interoperability standards (as developed by the ITU-T, Internet Engineering Task Force, etc.), which will become essential for a harmonious interoperable environment, which promotes a healthy competitive environment. At an international telecommunication service level, competition has been created through the facilitation of these new high speed data networks, which will see multinational players entering the local markets, potentially with propriety systems and hyper scaling ability. This also creates opportunities for companies to expand into international markets. The increasing data centres and hyperscalers have increased the need for cyber and network security, which need to be considered in the ITRs.

**6. Adjacent services from OTTs**

Platform players offer services that are substitutes for voice calls at a cheaper rate. OTTs typically carry little to no obligations, and their cost to do business is much lower than that of licensed operators. OTTs typically do not contribute significantly to the economy of the Member States but OTTs have become global platforms used by everyone and so there should be global regulations to address OTTs operations.

**7. Separation of infrastructure and services layers**

Operating agencies are becoming less vertically integrated and separating their infrastructure capabilities from their service capabilities. The proliferation of Mobile Virtual Network Operators (MVNOs is one such example. The impact of this is that contracts for the charging of international Telecommunications/ICTs services will involve inputs from multiple organisations instead of a single vertically integrated entity.

**8. Decreasing voice revenues**

Voice revenues from both domestic and international calls are becoming a smaller contributor to the total revenue of operators. The ITRs are based on a voice-centric PSTN-based international Telecommunications/ICTs services ecosystem and need to be adapted to deal with the hybrid coexistence of telecommunication-based and platform-based communications services. The provisions on access to: International Networks as covered in articles 3; International Telecommunications/ICTs Services as covered in Article 4; and Safety of life and Priority of Telecommunications/ICTs as covered in Article 5, will have to be reviewed to incorporate the fact that such services can be made available through platforms and data networks.

**9. Reduction in CDRs**

Rates for local call termination have reduced significantly over the years and continue to drop. Consequently, the margins for international termination services are rapidly decreasing making it increasingly difficult to justify continued investment in international networks. The review process for the ITRs should seek to incentivise investment in networks and avoid the erosion of margins for operators. The ITRs should continue to pursue consumer protection, public safety, and market development within this changed environment.

**10. Taxation**

Even though Article 6.3 of the ITRs provides administrative assistance in tax matters related to international telecommunications /ICTs services, the restrictions on taxing international services as “billed to customers in a country” may limit revenue collection for developing countries, impacting infrastructure development. There should be the flexibility in allowing Member States, especially developing countries to tax, considering their special needs in infrastructure development.

**11. Collection charges**

While Article 6.2.4 promotes transparency and non-discrimination, it presumes a one-size fits all approach. In many developing nations, telecommunications infrastructure may be less developed, leading to higher costs for providing international telecommunications/ICTs services compared to developed nations. There is need to introduce flexibility in charges, allowing developing countries to consider their unique economic circumstances when setting international communication charges and recognize that dissymmetry as inevitable but encourage gradual convergence, providing support mechanisms for developing countries to bridge the gap.

Change is necessary because of sim boxing fraud, other bypasses as OTT, hence although this principle has been upheld, it no longer corresponds to the realities of the modern world. This provision should continuously evolve in a changing socioeconomic and political context, adapting to the dynamics and developments in the market and seek to strike a balance between market-based evidence and varying political economy interests such as affordability, cost coverage and levels of economic and ICT development.

**12. E-Commerce and Digital Trade**

Telecommunications/ICTs as an enabler for E-Commerce and Digital Trade has presented various opportunities in various market segments/ areas. This has been acknowledged in International/Regional Trade Agreements for the ICT Sector. These include areas such as, ICT Infrastructure, Digital Platforms (Commercial & Social), Business enterprises, Trading Platforms, Transport and Logistics.

The revision of ITRs will be very instrumental in reflecting these changes, accelerating the growth of businesses in the industry. This will spur Digital trade and E-Commerce, foster innovation, open the world to diverse skills and promote the global digital economy while promoting cross-border data flows with trust.

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