



# Sustainable Digital Transformation Week for Africa Region 2023 (15 - 19 May 2023)

*Co-hosted with ITU-T Study Group 5 Regional Group for Africa - EMF, environment, climate action, sustainable digitalization, & circular economy*

**Venue : UCC House, Bugolobi**



**EACCO** | East African  
Communications  
Organisation

*Communications for all in East Africa*



# **SUSTAINABLE DIGITAL TRANSFORMATION (SDT) WEEK FOR THE AFRICAN REGION 2023**

*Electromagnetic compatibility and human exposure to electromagnetic fields (EMFs):  
addressing public concerns on health and safety around telecommunications installations –*

*A Consumer Perspective*

**Organized by:**

The International Telecommunication Union [ITU]

**Hosted by:**

Uganda Communications Commission [UCC], May 15-19, 2023,  
The UCC Conference Hall in Bugolobi, Kampala.

**Presentation By:**

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**Director Programmes, Global Consumer Centre**

# ROADMAP:

- Global Consumer Centre: Who are we?
- Workshop objectives: A consumer perspectives
- Consumers, consumer rights and consumer responsibilities
- Digital transformation: Consumers in the digital age
- RF EMF, a provocative stone in the beehive
- Addressing public concerns on health and safety around telecoms installations
- Conclusion





## Global Consumer Centre: Who are we?

- ▶ Since 2002 CONSENT has campaigned, advocated and promoted consumer welfare, rights and responsibilities towards a fair and just society that works for all.
- ▶ Publishing periodicals, magazines, social media posts etc to inform, provide communication platforms amongst and between consumers and businesses, regulators and other stakeholders.
- ▶ Consumer Empowerment for Active Citizenship: at individual, community and national levels, to know their rights and responsibilities, speak-out and take action, make informed decisions and effectively participate in policy issues that affect them.
- ▶ Amplifying the consumer voice in relevant processes.

# Workshop Objectives: A Consumer Perspective

- To initiate a global discussion on sustainable digital transformation in the African region;
- To identify common solutions and explore opportunities to leverage digital technologies to enhance efficiency, productivity, and innovation while promoting the Sustainable Development Goals and minimizing negative environmental and societal impacts.



# Consumers, consumer rights and responsibilities

## Who is a Consumer?

- Generally refers to a natural person, acting (purchases, uses, or intends to use goods or services) primarily for personal, family or household purposes (first clothing to all at birth).
- A person or a group who intends to order, or uses purchased goods, products, or services primarily for personal, social, family, household and similar needs, who is not directly related to entrepreneurial or business activities.



# Consumer protection

- *The practice of safeguarding buyers of goods and services, and the public, against harm and/or unfair practices in the marketplace.*





# Why Consumer Protection? Legitimate needs of Consumers

- Access to essential goods and services
- Protection of the vulnerable and disadvantaged
- Protection of consumers from hazards to their health and safety
- The promotion and protection of the economic interests of consumers
- Access by consumers to adequate information to enable them to make informed decisions according to individual wishes and needs
- Consumer education, including education on the environmental, social and economic consequences of consumer choice
- Availability of effective consumer dispute resolution and redress
- Freedom to form consumer and other relevant groups or organizations and the opportunity of such organizations to present their views in decision-making processes affecting them
- A level of protection for consumers using electronic commerce that is not less than that afforded in other forms of commerce
- The protection of consumer privacy and the global free flow of information.



# Origin of Guidelines on CP:

- Derived from the United Nations Guidelines for Consumer Protection:
- First adopted by the General Assembly in resolution **39/248 of 16 April 1985,**
- Expanded by the Economic and Social Council in resolution **1999/7 of 26 July 1999,**
- Revised and adopted by the General Assembly in resolution **70/186 of 22 December 2015.**



# What and why the UN Guidelines for CP?

- ▶ Valuable set of principles that set out the main characteristics of effective consumer protection legislation, enforcement institutions and redress systems.
- ▶ Assist interested Member States in formulating and enforcing domestic and regional laws, rules and regulations that are suitable to their economic, social and environmental circumstances;
- ▶ Help promote international enforcement cooperation among Member States and encourage the sharing of experiences in consumer protection.



UNITED NATIONS  
UNCTAD



ECOSOC  
United Nations

# The Consumer Rights:

- **Right to be protected**

Against physical harm (immediate and long term), practices against consumer interest

- **Right to be informed**

- **Right to choose**

- **Right to be heard**

- **Right to redress**

- **Right to consumer education**



# Consumer Responsibilities



- ▶ **Responsibility to be aware** – A consumer has to be mindful of the safety and quality of products and services before purchasing.
- ▶ **Responsibility to think independently**– Consumer should be well concerned about what they want and need and therefore make independent choices.
- ▶ **Responsibility to be speak out**- Buyer should be fearless to speak out their grievances and tell traders what they exactly want
- ▶ **Responsibility to complain** - the responsibility to express and file a complaint about dissatisfaction with goods or services in a sincere and fair manner.
- ▶ **Responsibility to be an Ethical Consumer**- They should be fair and not engage themselves with any deceptive practice.



# Digital rights



- ▶ Human rights and legal rights that allow individuals to access, use, create, and publish digital media or to access and use computers, other electronic devices, and telecommunications networks.
- ▶ Related to the **protection** and realization of **existing rights**, such as the **right to privacy and freedom of expression**, in the context of digital technologies, especially the .
- ▶ **Consumer rights**: informed, heard, education

# Digital transformation: Consumers in the digital age

- **cow and milk**

Milk is the most visible and known product rather than the cow that produces the product.

- Its big gadget season. The average life is incomplete at a personal, workplace or household levels. The gadgets are conduits or vessels through which a plethora of services are rendered. From computers, to mobile phones, tabs, wearables, wireless devices of many kinds and makes, name it,... That's the delicious milk everyone seems to enjoy.



# Digital transformation: Consumers in the digital age

- ▶ The invisible cow, had for long hasn't been in the picture or at least was ignored. The cow is the infrastructure through which the services are rendered. Masts, antennae etc
- ▶ We should be asking: Why now? What should we do with the cow? Without it there won't be any milk!! And that would plunge the world into a communications (mainly "data") blackout.
- ▶ I bet there would be a **global civil war**, if this happened!!



# Digital transformation: Consumers in the digital age

- DT is creating a generation of sitting ducks literally clicking away at opportunities for meet their insatiable appetite for the now ever-increasing array of goods and services.
- Digital transformation is changing the way we do business and, in some cases, creating entirely new classes of businesses (digitising traditional domains: farming, transport (uber, safe boda), logistics, healthcare, including traditional medicine etc
- Customer-centricity heralds shift in data-driven digital transformation, headlined by use of customer data to develop an experience-led approach (shopping, fashion, tourism, hospitality etc)
- The Internet, evolving technologies, and social media have led to the evolution of consumer behavior. The changes in customer behavior driven by digital developments provide many opportunities and challenges





# RF EMF, the stone in the beehive

- ▶ Radio Frequency are part of the EMS used to transfer information quickly over great distances and have been around for a long time.
- ▶ Microwaves, part of the EM spectrum, are used to send information from your mobile phone, whether it is a conversation, a text message, a photograph or even a video clip.
- ▶ In the beginning many consumers imagined their brains would be barbecued. Today they have moved on from the period of fear-driven decision-making.
- ▶ But debate hasn't stopped. Why? Its about ownership

EMF in medical field if poorly managed, could more dangerous than in the communication industry, yet it doesn't provoke a lot of sentiments. Its application is owned up and its confinement. This is a unique advantage. But as well, it's well explained and it's personal.



# RF EMF

- ▶ RF EMF still shrouded in jagged-edge, unpalatable and scary jargon.
- ▶ Collaborative Plan to demystify RF EMF should be drawn with involvement of all stakeholders.
- ▶ If RF EMF isn't dangerous, many consumers out there keep asking, why is it that it's subject to public debate, with many unanswered questions?
- ▶ The story should start with demystifying the “mother” concept, EMS (Amayengo). The antennae should be brought down and dissected for the public to see what's inside. The bee-hives / long bread and drums are hiding a secret that should be unveiled.



# RF EMF

- ▶ Comparisons with transmission/ broadcasting infrastructure for entertainment should be made for ease of appreciation
- ▶ Relevant Standards must be simplified and publicised
- ▶ Verification exercises should be made public, with involvement of representatives of local authorities and results disseminated.



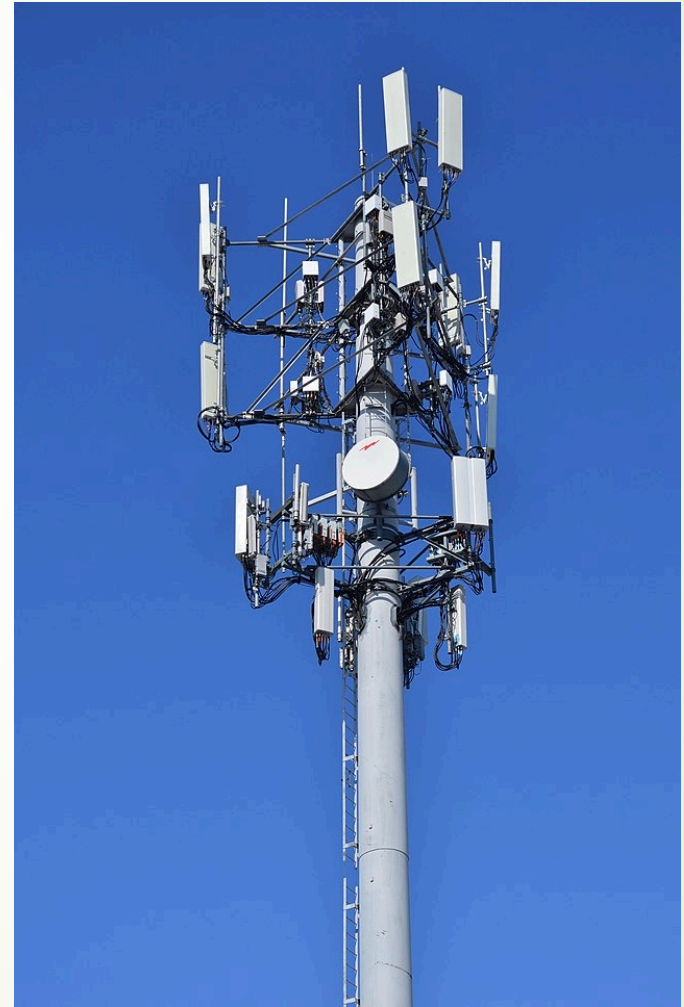
# Addressing public concerns on health and safety around telecoms installations

Demand or growth in wireless access, has accelerated access and use of valued added services, in turn pushing CSPs to “take services closer to the customer” for efficiency improvement and better customer experience. Masts could be heading to the bedroom!!

- Live streaming
- Location-based services (transport hailing, delivery services etc)
- Mobile advertising
- Mobile money and M-commerce based services
- Mobile TV services
- Online gaming
- dating services
- Infotainment services
- content downloads
- Hello tune service



# Base stations/ Masts: shapes, heights, designs ...

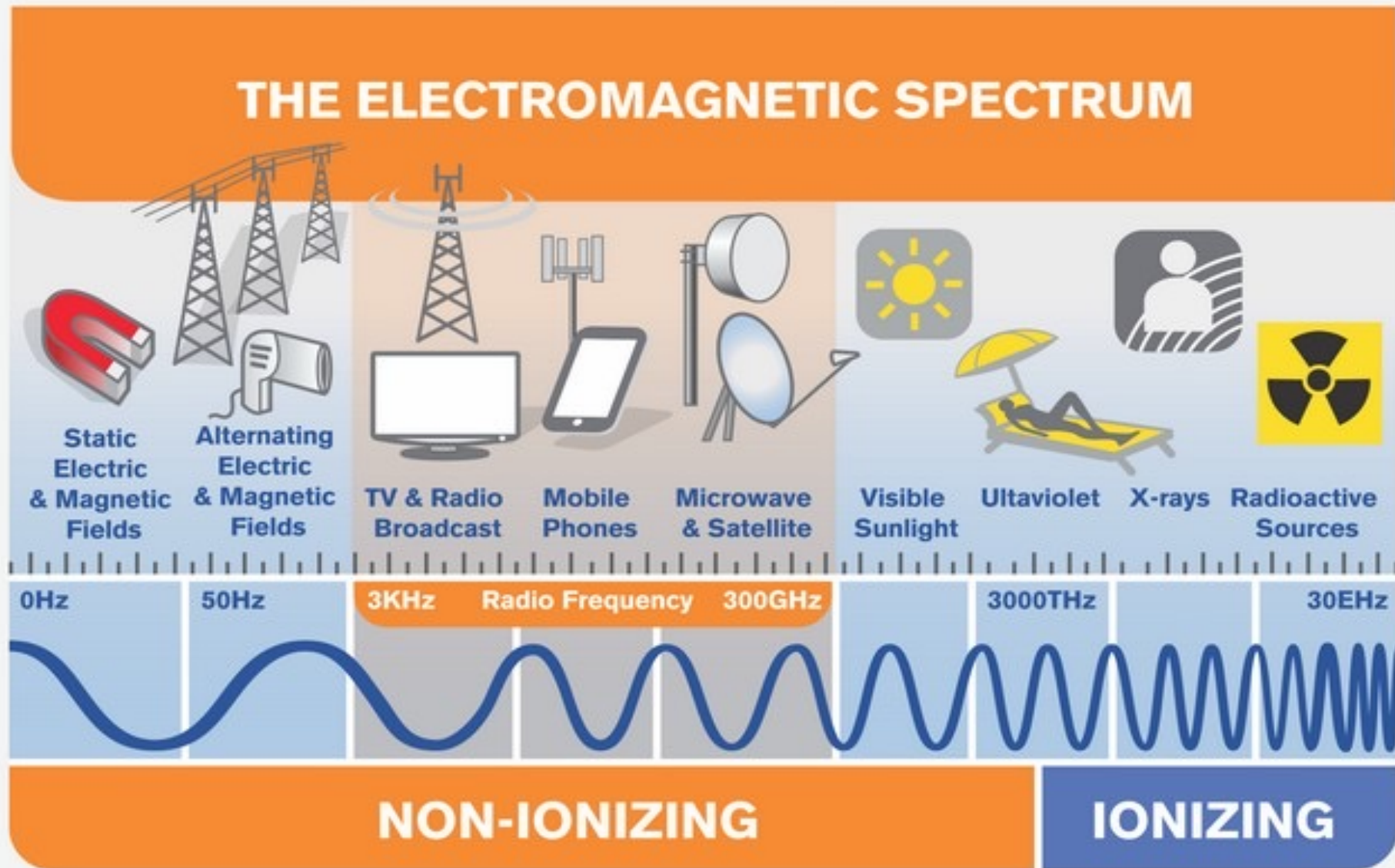


# Addressing public concerns on health and safety around telecos installations

- ▶ All was well, probably not perfectly well, until the **WHO's International Agency for Research on Cancer (IARC)** categorized exposure to RF and microwaves as a **possible carcinogen** to humans in 2011 ([www.frontiersin.org](http://www.frontiersin.org)).
- ▶ Then **in 2020** results from two large animal studies: the **National Toxicology Program (NTP)** in the US and the **Ramazzini Institute in Italy**, that investigated whether long-term exposure to RF EMF associated with mobile (cell) phone or base stations is carcinogenic.
- ▶ In both cases, the authors concluded that RF EMF are carcinogenic in male and not female rats or mice (NTP).
- ▶ However, the ICNIRP would later question the conclusion, giving its reasons.



# Who is the culprit?



# Addressing public concerns on health and safety around telecoms installations

- UCC implements the International Commission on Non-ionising Radiation Protection (ICNRP) guidelines, placing Uganda's regulatory system among the progressive in this respect.
- The updated ICNRP guidelines and the Institute of Electrical and Electronic Engineers International Committee on Electromagnetic Safety (IEEE-ICES) Standards have focused on temperature rises induced by RF heating in the human body.
- The take home has been that besides heat, there shouldn't be much to worry about microwave and RF radiation.





# Addressing public concerns on health and safety around telecos installations

- ▶ New age conditions threaten to muddy the waters: Electromagnetic Hypersensitivity (EHS)
- ▶ According to the WHO, Electromagnetic Hyper-Sensitivity (EHS) is characterized by a variety of non-specific symptoms, which afflicted individuals attribute to exposure to EMF.
- ▶ The symptoms most commonly experienced include: tingling, and burning sensations, fatigue, tiredness, concentration difficulties, dizziness, nausea, heart palpitation, and digestive disturbances.
- ▶ WHO conclusion: The collection of symptoms is not part of any recognized syndrome. EHS symptoms have no direct correlation to RF EMF.
- ▶ But that hasn't sent EHS packing and its gaining traction in many circles.



# HOW TO PROTECT AGAINST ELECTROMAGNETIC HYPERSENSITIVITY



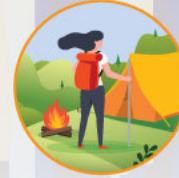
Diet and lifestyle



Wear silver



Grounding



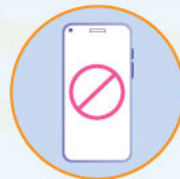
Total abstinence



Charcoal patches



Using energyDOTS

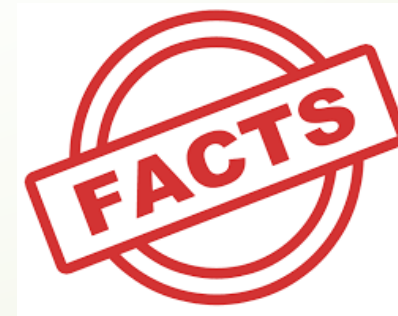
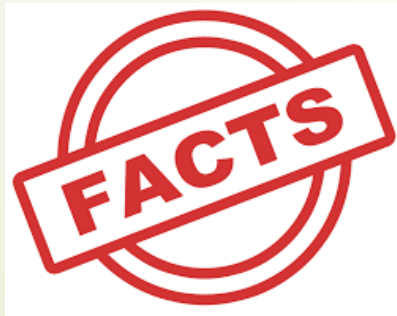


Limit the use of  
electronic gadgets



# Addressing public concerns on health and safety around telecoms installations

- Groupthink or herd mentality exacerbated by social media has accelerated the doomsday debate about the question of RF health and safety.
- The picture is still blurry as research of RF EMF commences on many fronts.
- The “work in progress” scenario must be managed to ensure debate is not stifled but shouldn't be hijacked by fear mongers.



# Addressing public concerns: Demystifying fear and reinforcing confidence

How about SPs and Regulators putting your best foot forward and having a conversation around critical RF related metrics or phenomena.

Move debate away from conspiracy theories in the public to informed conversations that restore calm as more scientific information and data is distilled about safety.

- ▶ The principal of ALARA (As low as Reasonably Achievable), has been in use in fields where radiation is deployed for various purposes. The medical field is a good example. It's also used in communication and its one way consumers would be assured of the best efforts invested in ensuring RF health and Safety Protection, yet service providers aren't "blowing their trumpets". Why?



# Addressing public concerns: Demystifying fear and reinforcing confidence

- ▶ **Specific Absorption Rate (SAR)** is a measure of the rate of RF (radiofrequency) energy absorption by the body from the source being measured – in this case, a cell phone or masts.
- ▶ **Maximum Permissible Exposure** limits for field strength and power density for the transmitters is part of the regulatory framework. Some sceptics in public may not be aware there are limits and worry. Can their fears be allayed?
- ▶ **About EHS** the regulators /Governments should provide appropriately targeted and balanced information about potential health hazards of EMF to EHS individuals. Health authorities should come on-board as regulators alone may not convince a sceptical public watching an evolving S/matter



# Conclusion

## To initiate a global discussion on sustainable digital transformation in the African region

- The reality is that signs are abound that the future will be bright. However, in all technically complex situations, like the communication industry that's driven by cutting edge technologies, information asymmetry inevitably poses a challenge.
- While industry and regulators are well versed with the systems and how they perform to render needed services, the service consumers demands are driving repositioning of infrastructure, in the process upsetting the delicate balance.



# Conclusion



**Identifying common solutions and explore opportunities to leverage digital technologies to enhance efficiency, productivity, and innovation while promoting the Sustainable Development Goals and minimizing negative environmental and societal impacts:**

- ▶ DT will continue to shape society profoundly. Again, signs abound that the future will be bright
- ▶ RF EMF is affected by information asymmetry and is still shrouded in conspiracy theories that pose challenges to consumers, service providers and regulators. But they are
- ▶ A social/ stakeholder approach holds the promise to smoothen the debate, but it should be underwritten **with facts as well as demonstrating fidelity to standards and accountability.**