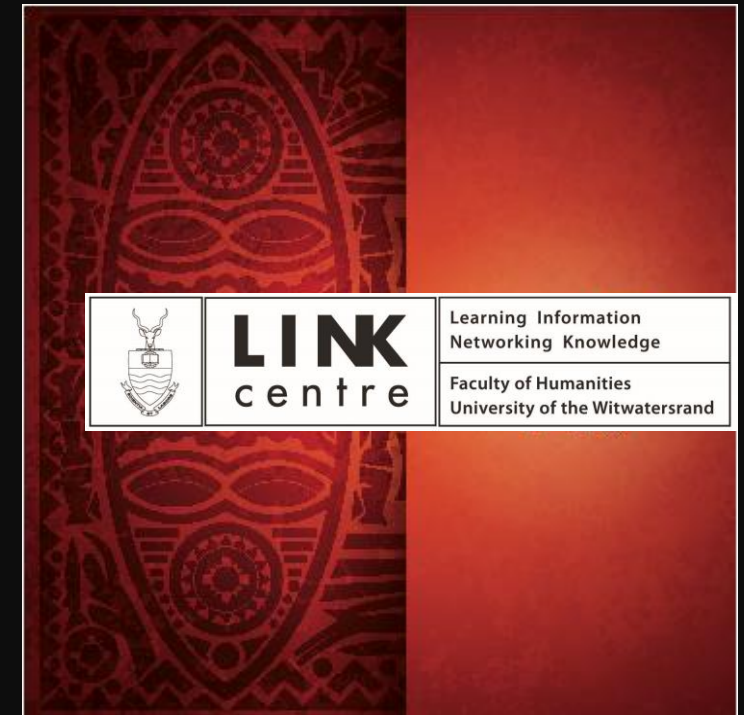# REFLECTIONS ON THE FUTURE OF TELECOMS REGULATION IN AFRICA
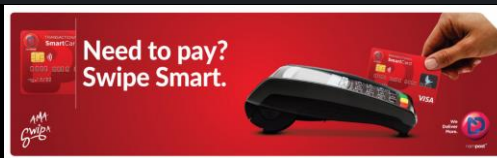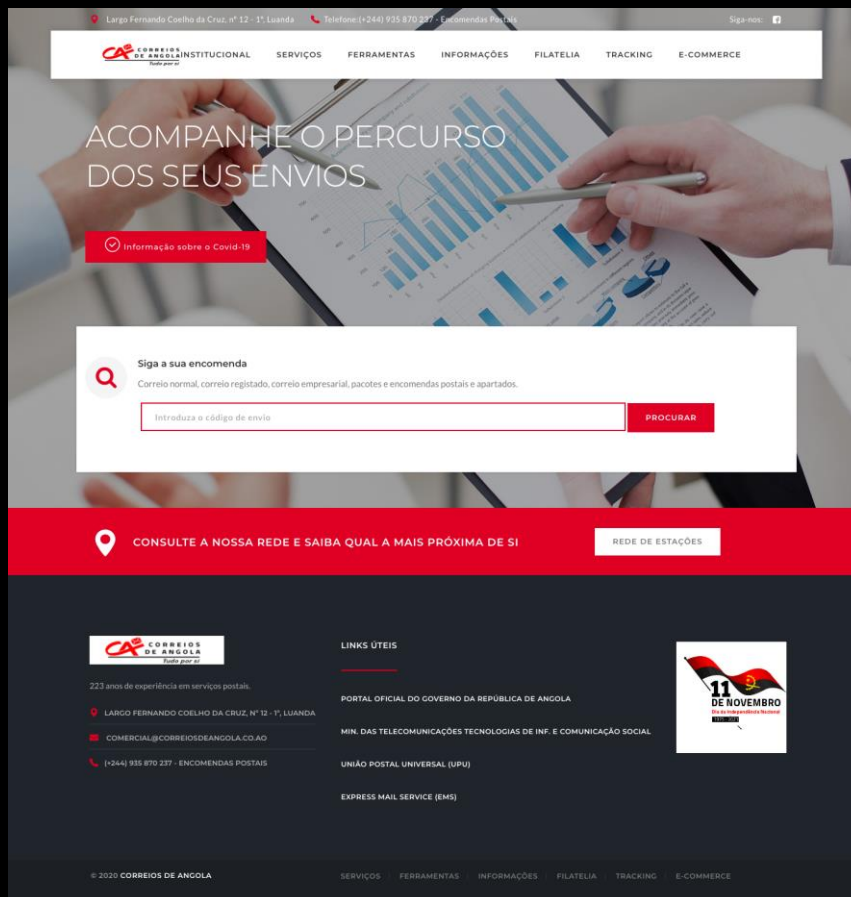
ACER 2022, SEPTEMBER 2022

Luci Abrahams, LINK Centre, Wits University

What is telecoms ie. mobile broadband, fibre and WiFi supporting?

✓ Transition to audio-visual online media
✓ Transition to digitally-enabled post/courier/logistics services for e-commerce and cross-border trade

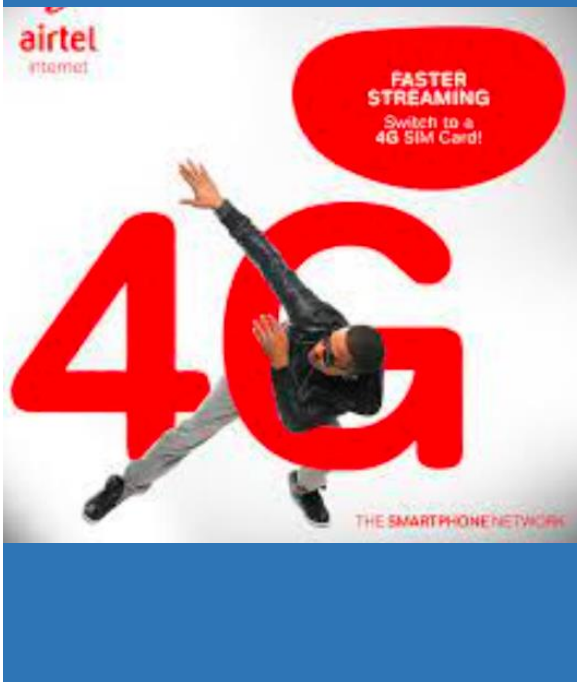## What is telecoms ie mobile broadband, fibre and WiFi supporting?

✓ Transition to digitally-enhanced agriculture

How Ghana's DigiExt helps farm cooperatives develop and grow

Data-driven Farming for Smallholders

Driving inclusive prosperity for all farmers through robust, innovative technologies in digitalization, mechanization and renewable energies.

| How Ghana's DigiExt helps farm cooperatives develop and grow

Ghanaian agri-tech startup DigiExt is helping farm cooperatives grow via a variety of tech-based platforms and then assisting them in selling their produce to processing companies and export agencies.

Launched in 2017, DigiExt helps farmers sell their produce, access credit, and provides low-cost and convenient ICT-enabled agricultural extension services.

What is telecoms ie mobile broadband, fibre and WiFi supporting?
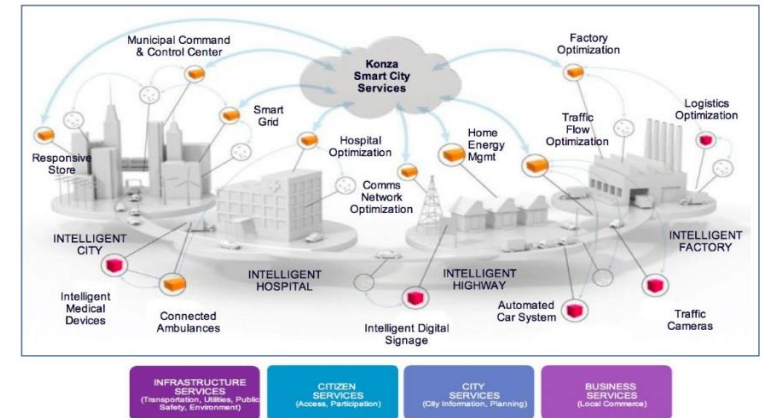

✓ Transition to digital government

✓ And "smart" environments
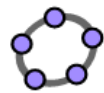✓ With cybersecurity

Konza Smart City Vision - Kenya

What is telecoms ie mobile broadband, fibre and WiFi supporting?

✓ Transition to digitally-mediated educational content (dynamic, visual content) and health services ("know your own health")

✓ And progressively digital transition across the economy

Tech hub space for young developers:
Good network of spaces for digital inclusion

Over 600 tech hubs and co-working spaces, more than 50 in South Africa, where new forms of learning take place and digital innovation partnerships are fostered

Ecosystems or communities of software developers, digital makers, start-ups, SME's, corporate clients and investors in digital innovation

Start-ups, academies, incubators, workshops, 3D printing hubs and maker spaces – all tech hubs

Focus on the digital manufacturing and service applications, as enablers to all industries and sectors, aviation sector, education sector, energy sector, fashion, health, retail and other sectors

Collaborative working in tech hubs

Over 600 tech hubs in Africa, of which around 50 in Kenya (iHub, SwahiliBox, LakeHub, Mt. Kenya Hub and many others); more than 70 in South Africa (Tshimologong, others), more than 90 in Nigeria (Wennovation, others).
Some focus on tech production, some focus on tech enablement

"SwahiliBox brings together investors, donors, entrepreneurs, experts, artists, and other individuals and provides them with an opportunity to share knowledge, learn, find mentors and expound on their talents, abilities and innovative ideas that will lead to the development of Kenya and globally at large".

Source: https://swahilibox.co.ke/
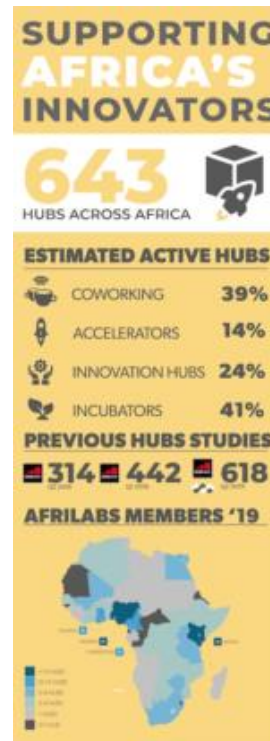
Source: The Africa Report.
https://www.theafricareport.com/23434/tech-hubs-across-africa-to-incubate-the-next-generation/

Source: Own photos, 2017

* the future of science and science policy is in STEAMIE (science, technology, engineering, arts, mathematics, innovation, entrepreneurship)
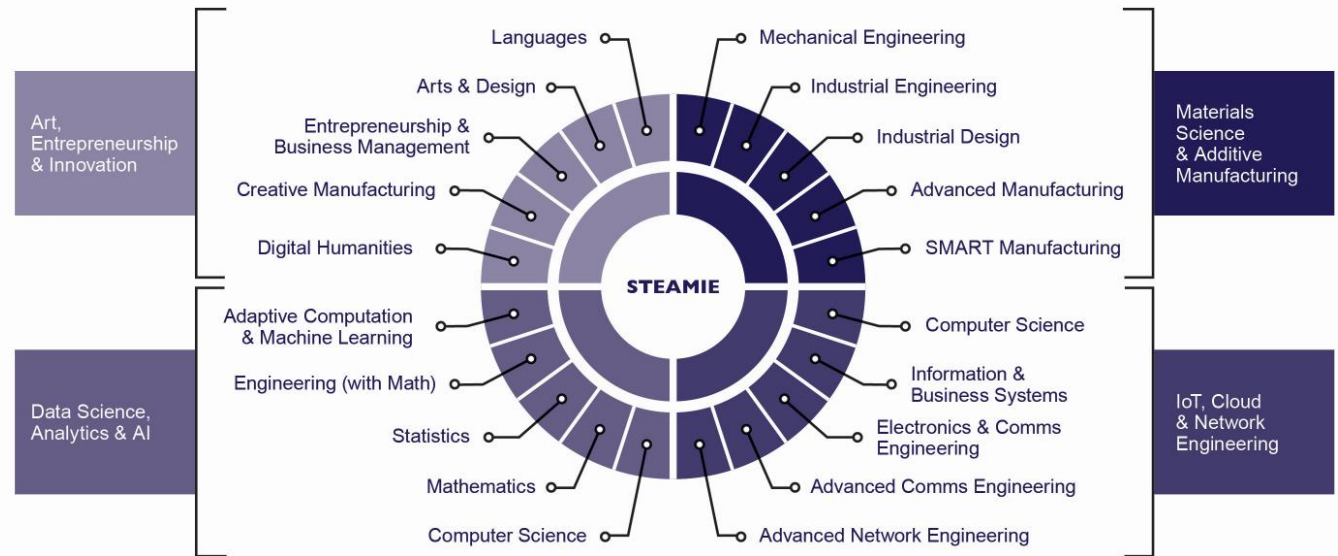
Source: Abrahams & Burke, 2021

DIGITAL SKILLS JOURNEY

Legend:
- Digital and future skills foundations
- Intermediate and advanced digital and future skills
- Digital industry and digital governance
- Digital skills for society 4.0
- Special focus on young NEETs

Number of dotted lines = number of activities per measure

DBE	DSD	DSAC	DPSA	DSI
DHET	DTIC	DCDT	DoH	DWYPD
SACE	NRF	NYDA		
TVETs	HEIs	PSETA		

- Public sector
- Private sector

Icons:
- Curricula, learning material
- Changing mindset, pedagogical changes, training
- Technology, applications, platforms
- Communities of practice, community, collaborative learning
- ICT infrastructure and systemic changes
- Funding and resources
- Training of trainers
- Credentials and qualifications
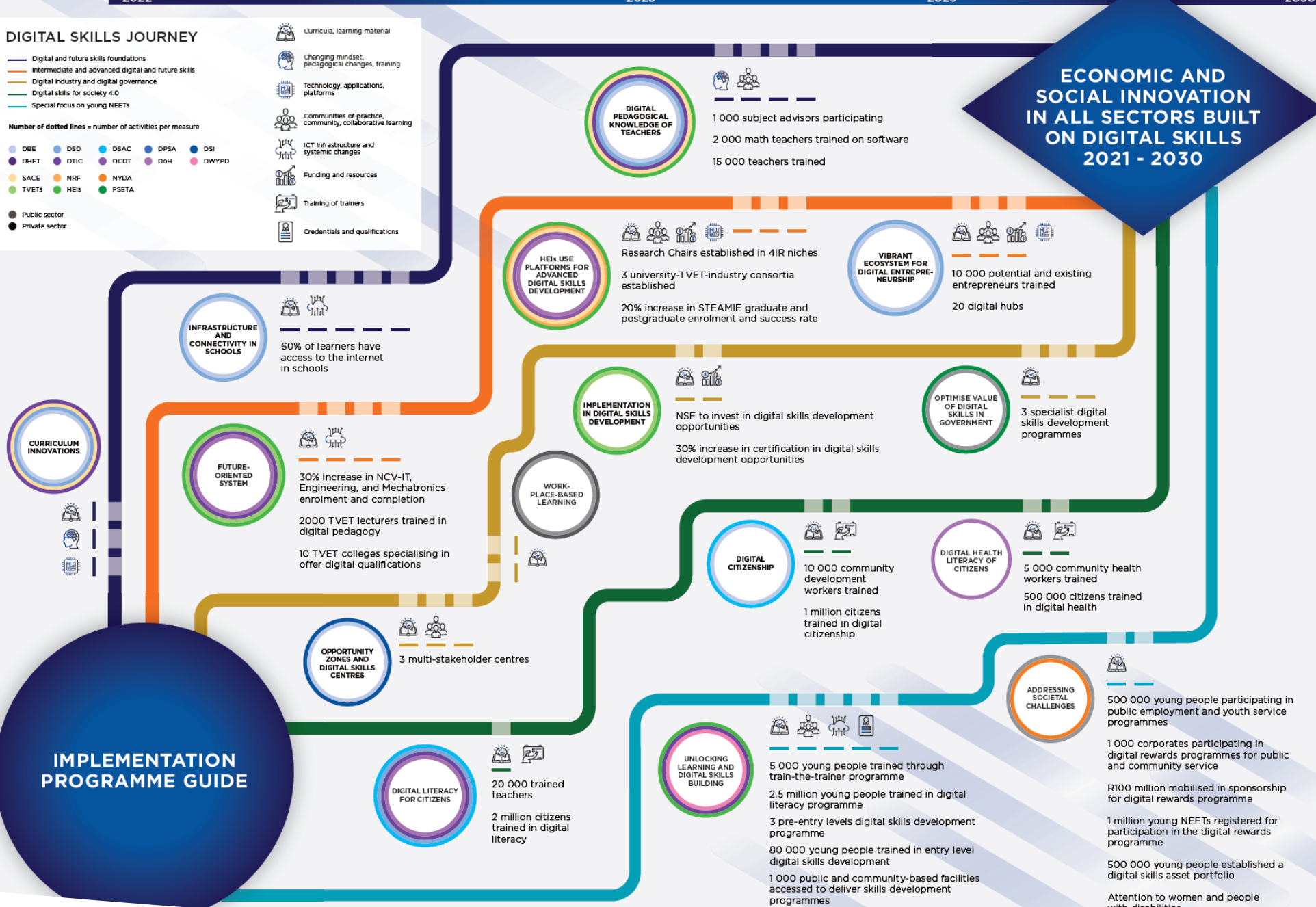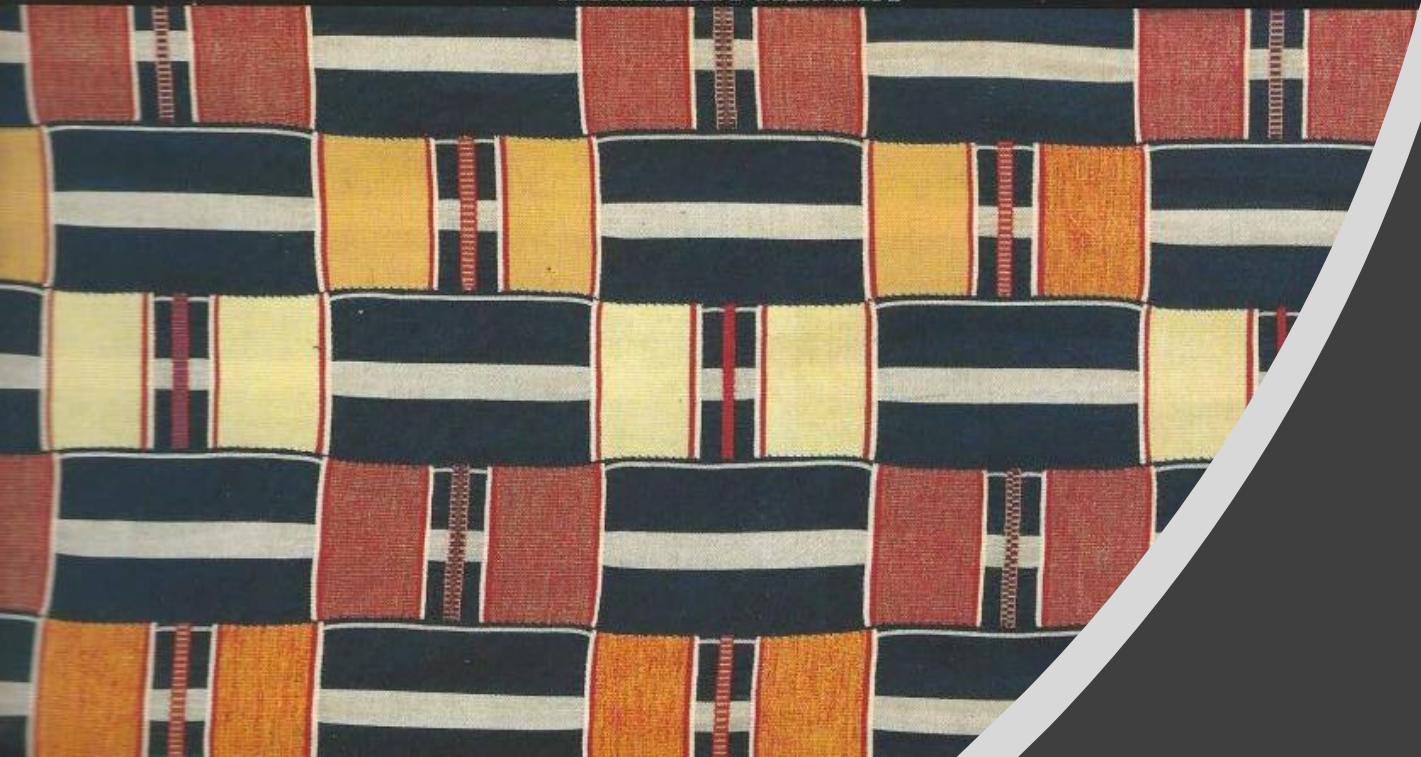
ECONOMIC AND SOCIAL INNOVATION IN ALL SECTORS BUILT ON DIGITAL SKILLS 2021 - 2030

DIGITAL PEDAGOGICAL KNOWLEDGE OF TEACHERS
- 1 000 subject advisors participating
- 2 000 math teachers trained on software
- 15 000 teachers trained

HEIs USE PLATFORMS FOR ADVANCED DIGITAL SKILLS DEVELOPMENT
- Research Chairs established in 4IR niches
- 3 university-TVET-industry consortia established
- 20% increase in STEAMIE graduate and postgraduate enrolment and success rate

VIBRANT ECOSYSTEM FOR DIGITAL ENTREPRENEURSHIP
- 10 000 potential and existing entrepreneurs trained
- 20 digital hubs

INFRASTRUCTURE AND CONNECTIVITY IN SCHOOLS
- 60% of learners have access to the internet in schools

CURRICULUM INNOVATIONS

FUTURE-ORIENTED SYSTEM
- 30% increase in NCV-IT, Engineering, and Mechatronics enrolment and completion
- 2000 TVET lecturers trained in digital pedagogy
- 10 TVET colleges specialising in offer digital qualifications

IMPLEMENTATION IN DIGITAL SKILLS DEVELOPMENT
- NSF to invest in digital skills development opportunities
- 30% increase in certification in digital skills development opportunities

WORK-PLACE-BASED LEARNING

OPTIMISE VALUE OF DIGITAL SKILLS IN GOVERNMENT
- 3 specialist digital skills development programmes

DIGITAL CITIZENSHIP
- 10 000 community development workers trained
- 1 million citizens trained in digital citizenship

DIGITAL HEALTH LITERACY OF CITIZENS
- 5 000 community health workers trained
- 500 000 citizens trained in digital health

OPPORTUNITY ZONES AND DIGITAL SKILLS CENTRES
- 3 multi-stakeholder centres

DIGITAL LITERACY FOR CITIZENS
- 20 000 trained teachers
- 2 million citizens trained in digital literacy

UNLOCKING LEARNING AND DIGITAL SKILLS BUILDING
- 5 000 young people trained through train-the-trainer programme
- 2.5 million young people trained in digital literacy programme
- 3 pre-entry levels digital skills development programme
- 80 000 young people trained in entry level digital skills development
- 1 000 public and community-based facilities accessed to deliver skills development programmes

ADDRESSING SOCIETAL CHALLENGES
- 500 000 young people participating in public employment and youth service programmes
- 1 000 corporates participating in digital rewards programmes for public and community service
- R100 million mobilised in sponsorship for digital rewards programme
- 1 million young NEETs registered for participation in the digital rewards programme
- 500 000 young people established a digital skills asset portfolio
- Attention to women and people with disabilities

IMPLEMENTATION PROGRAMME GUIDE

Source: Abrahams, Burke & The Data Innovator, 2021

WOMEN IN SCIENCE

Request for proposals for digital technology solutions for small-scale farm producers announced

Challenges and responses for future-oriented regulation: Complex adaptive system

- ✓ Energy for mobile broadband and Wi-Fi for e-education and e-commerce = the digital economy is an integrated economy
- ✓ Requires collaborative regulation eg. energy regulator + communications sector regulator + MoF
- ✓ From sector regulator to regulator for the digital economy = shift in mandate, structure and governance

- ✓ Focus more on the innovation influencing (agenda setting) mandate of the regulator, not just on the command-and-control mandate of the regulator (pricing regulation) eg the African platform economy?
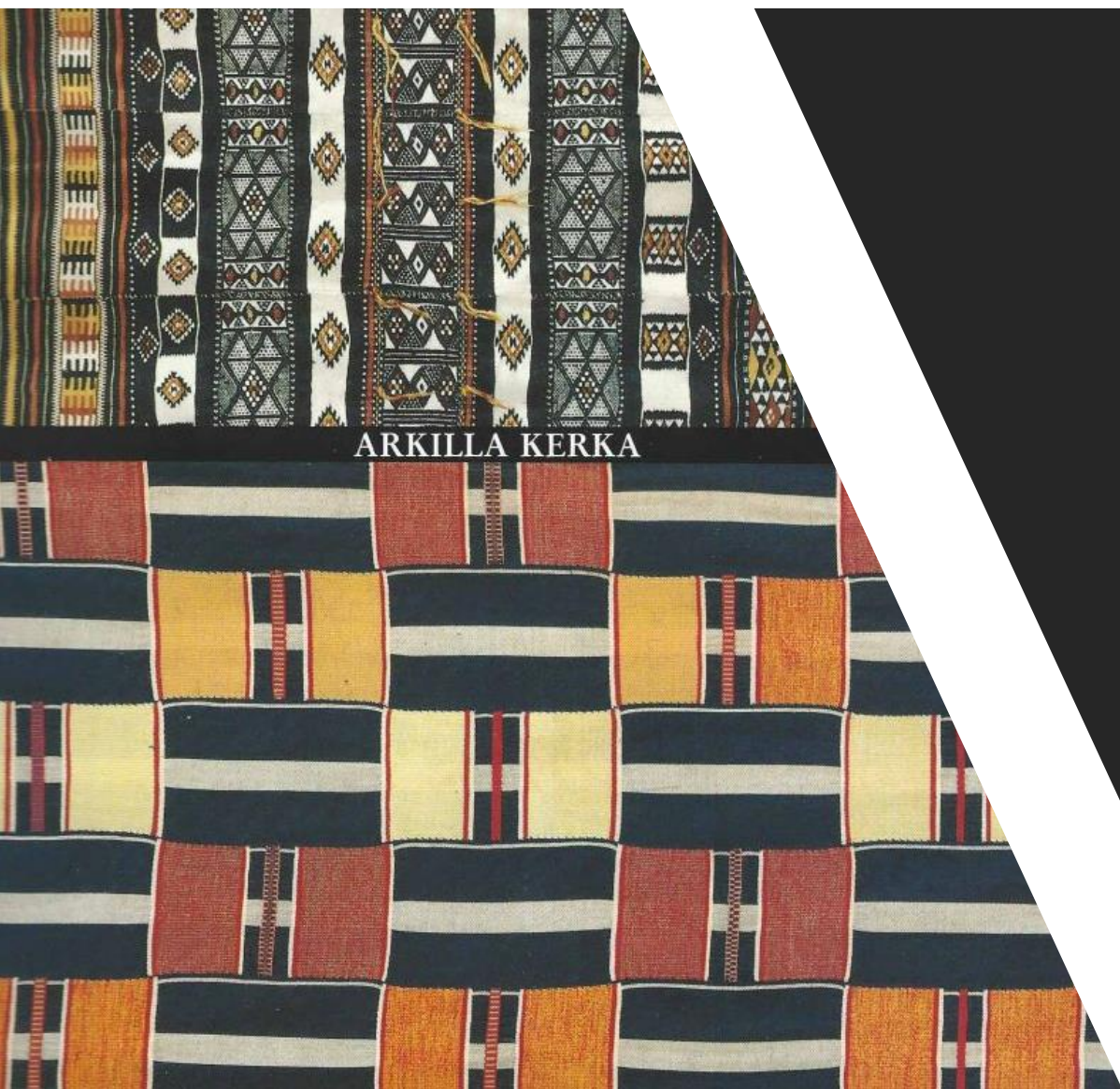
ARKILLA KERKA

Complex adaptive system: Digital ecosystem perspective

A: Regulation: New regulatory agendas and associated challenges
B: Regulatory impact: promoting the African digital economy

B: Multiple regulators co-existing across the digital ecosystem
*each with individual roles
*overlapping or unclear boundaries for regulation
*need for regular interaction, collective deliberation and regulatory alignment (eg energy and telecoms; telecoms and e-commerce)
*regulatory sandboxes for experimental forms of regulation

C: Which regulators? communications sector regulators, Central Banks and other financial services regulators, competition authorities, consumer protection authorities, health professions regulators, transport sector regulators, trade regulators, information/data privacy regulators, cyber security regulators

D: CRASA, COMESA.....SADC Model Law Framework for the Digital Economy

Complex adaptive system: Digital ecosystem perspective

Regulatory research studies needed:

*sector-by-sector digital transformation
*understand the extent to which existing legislation provides the foundation for conducting reviews and guiding regulatory decisions
*these studies are necessary to inform the practices of regulatory authorities, identify priority areas for attention, and clarify the roles of various regulators and any areas of possible concurrent jurisdiction, co-regulation and self-regulation
*also necessary to provide clarity for market entrants
*role of regional regulatory associations (CRASA, COMESA) in fostering advances in regulatory agendas and practices

Building on Abrahams (2017)

ARKILLA KERKA

Data-driven advisory services key for Africa's agricultural development

07-Jul-2020

WEBINAR SERIES
DIGITALIZATION TO TRANSFORM AGRICULTURE
IN AFRICA AND RESPOND TO COVID-19

Data-driven solutions for advisory and planning

10 June — 24 June — 8 July — 22 July

Food and Agriculture
Organization of the
United Nations

What are some of the barriers preventing small farmers in Africa from adopting digital advisory services? What do we mean by big data? What can governments do to encourage greater digital uptake?

These were some of the questions addressed during the second of four Transforming Agriculture in Africa Through Digitalization webinars hosted by the African Development Bank and the Food and Agriculture Organization's Investment Centre. During the most recent webinar, panelists explored how data-driven technologies can transform the agricultural ecosystem and contribute to policy-making and investment.

Questions