

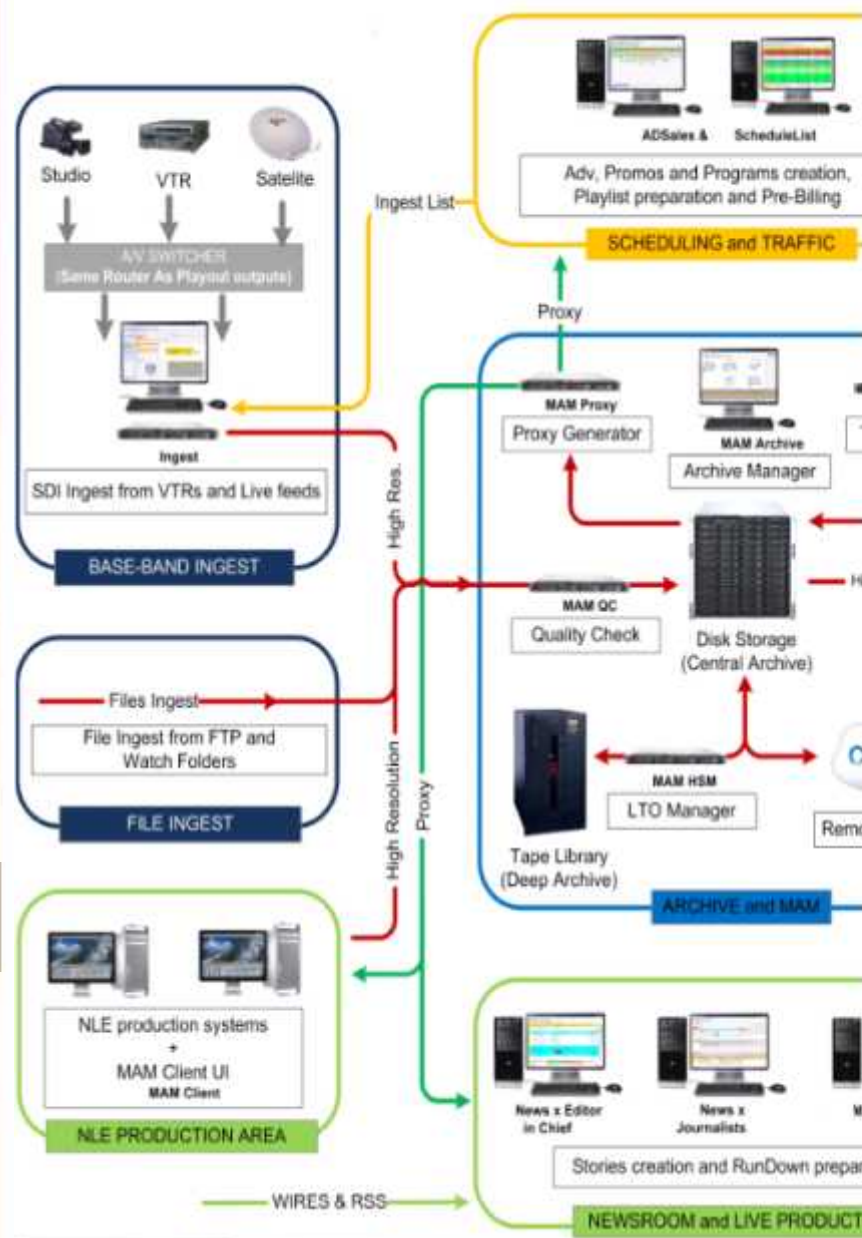
# Emerging ICT skills in Broadcasting & Digital Media: A Practitioner's Perspective

**Bridging the ICT Skills Gap through  
collaboration between The Industry  
and the Academia in the East African  
Region**

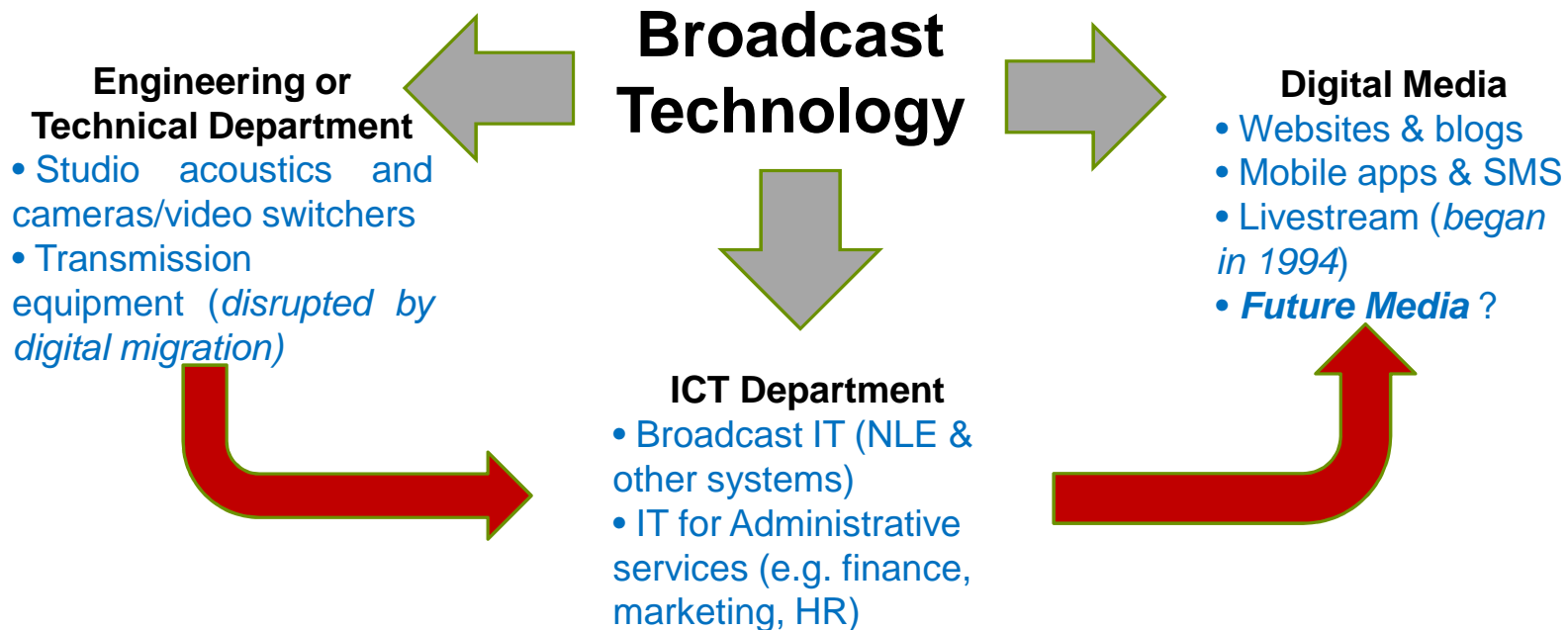
**Eng. Wainaina Mungai**  
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**Kigali Conference and Exhibition  
Village, Kigali, Rwanda**

**20<sup>th</sup> June 2016**

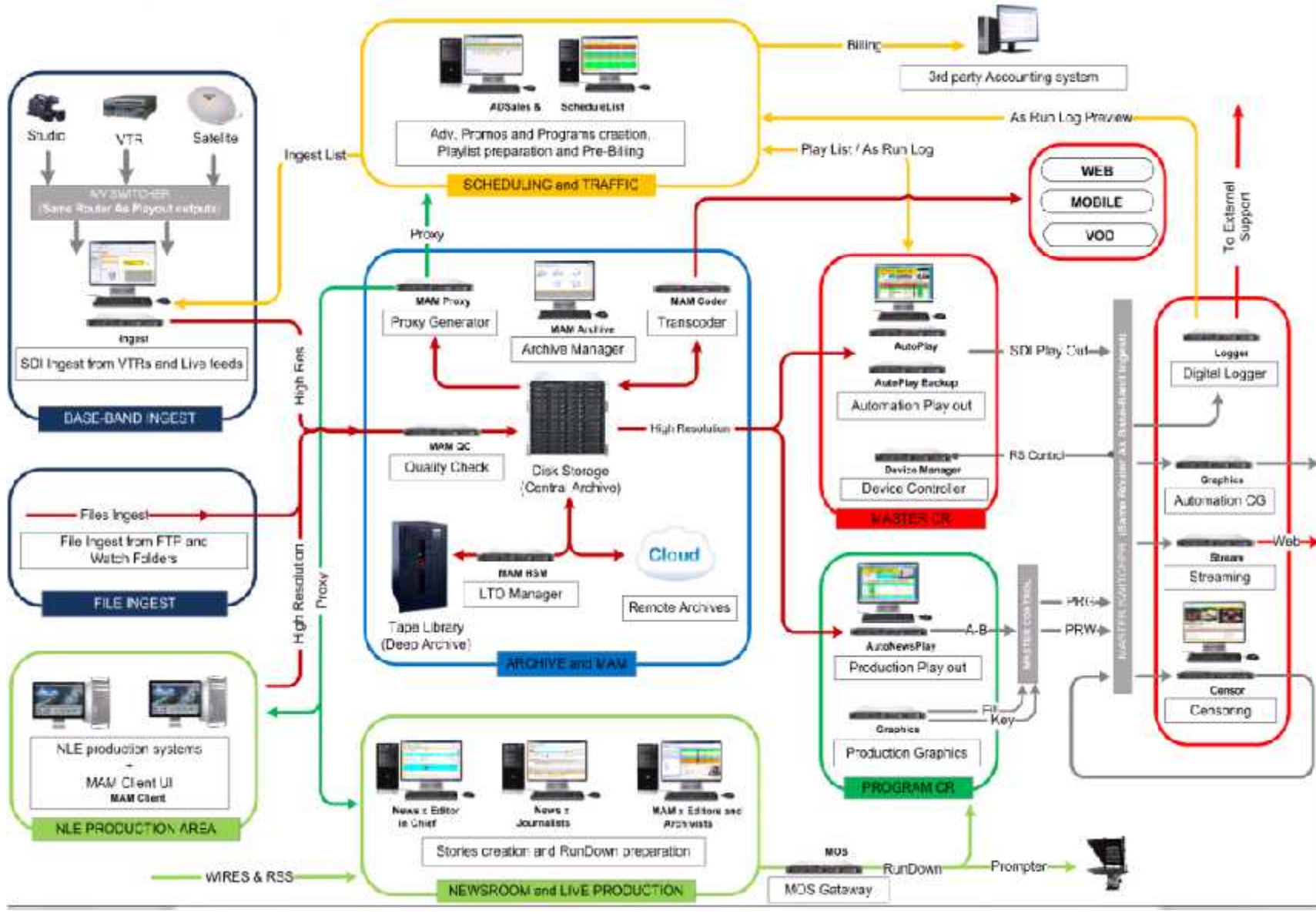


# Technology Divergence



- Broadcast operations embraced technology
- But have not embraced convergence
- Unprepared for emerging and future technological changes
- Grey areas in line management and ambiguity in accountability or performance measurement (e.g. *STLs via fiber-optic cable and OB via mobile or internet via satellite/VSAT or incoming feeds via livestream*)

# Broadcasting Workflow



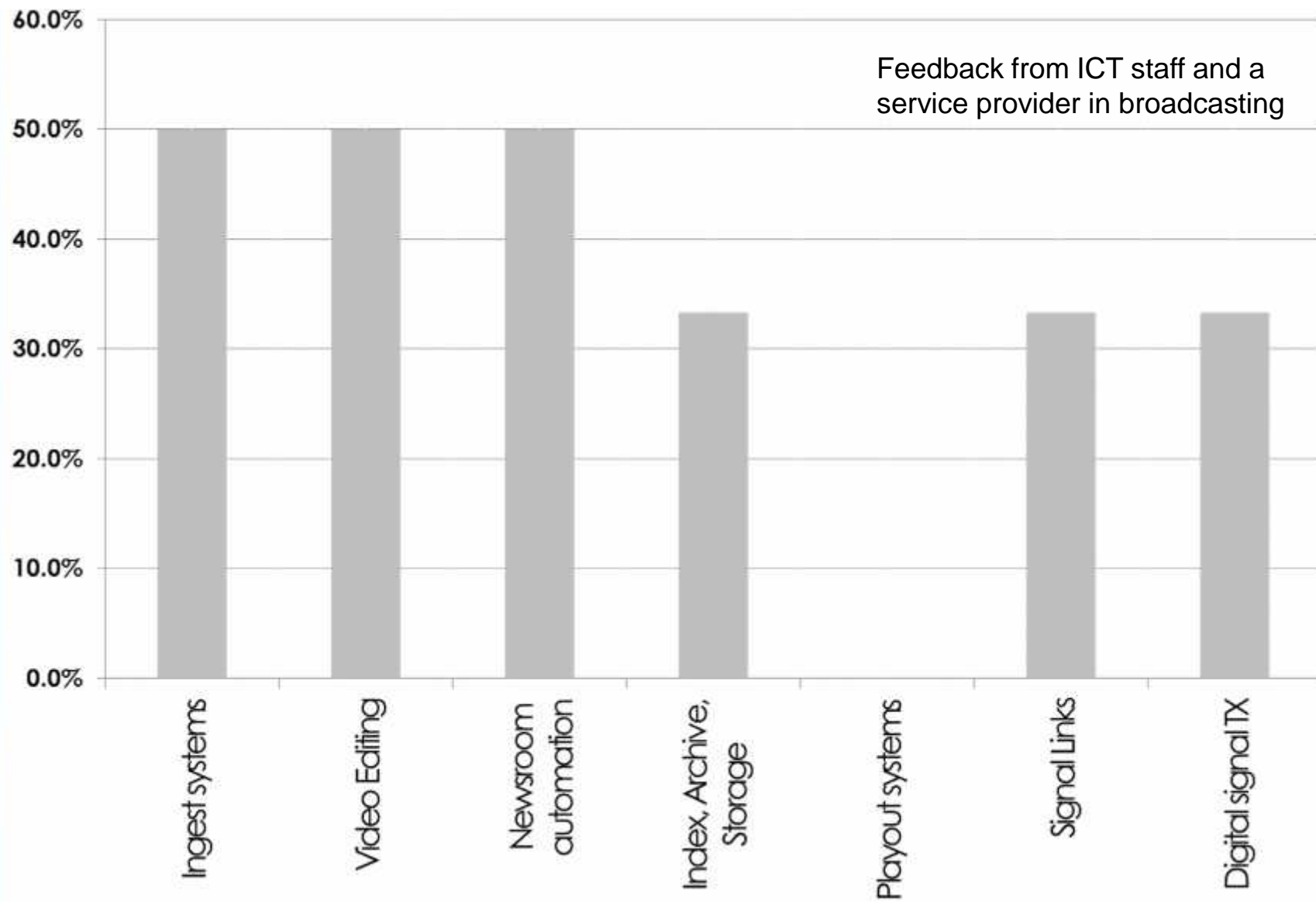


## Conventional vs Broadcast IT

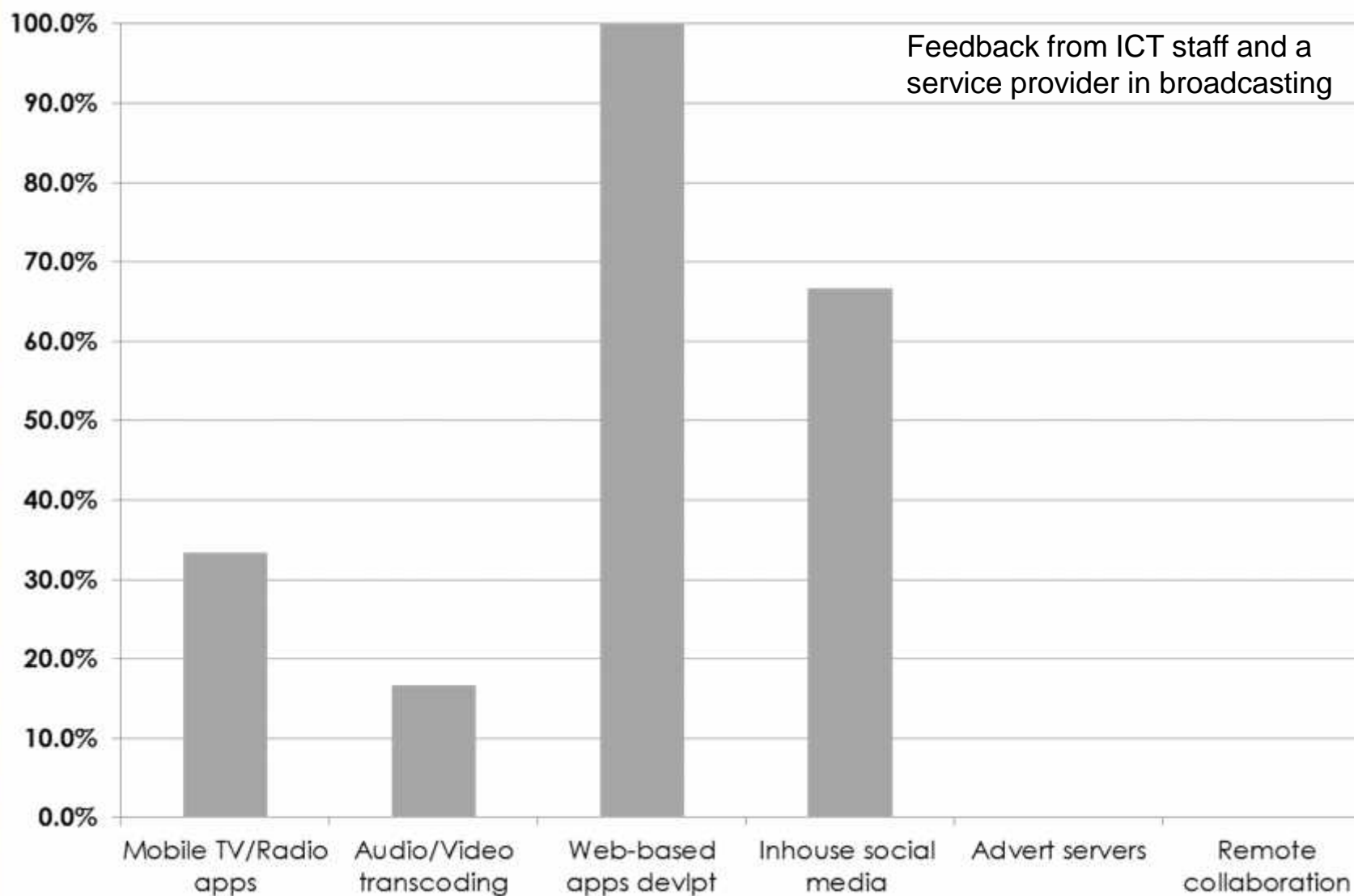
- Audio/Video instrumentation measurement
- Baseband video – standard-definition / high-definition
- Broadcast studio acoustics (radio and TV)
- Television studios - broadcast video cameras and camera lenses
- Production switcher (Video mixer and audio mixer)
- Linear video and audio editing
- RF signal transmitter skills ( STL, OB vans, microwave and satellite)
- Video compression - DV25, MPEG/DVB
- Digital playout servers and control protocols
- Broadcast automation & Scheduling
- Newsroom automation & Teleprompter systems
- Transactional storage and Archives – Tape/storage & indexing systems
- Networking for video (10Gig LAN, FTP)
- Post production – non-linear editing systems (NLEs)
- Graphics and animation systems
- Billing systems linked to finance system



# Broadcast < > Skill Gaps



## Digital Media < > Skill Gaps



## Media staff < > Feedback

How should colleges change their courses to meet your ICT needs as a broadcaster?

(5 responses)

Current and emerging technology trends should be used

they work from the needs of the industry especially deep training on media based technologies CAS, STB programming, VOD technologies, etc

Due to convergence of technology there is a need for support staff to be able to support both ICT and broadcast technology.

Training should include IP Networking skills and be "digital" centric

Yes they should make courses that are tailor made for broadcasters. Most colleges teach basic IT

Does Digital Media need special skills from our colleges? If so, which ones?

(5 responses)

Yes, systems setup and deployment

skills on developing OTT applications which can reach a wider audience all the time

Colleges need to train staff who can configure and manage network devices. Most broadcast equipment now come IP ready. That extends to support of computers and softwares that will then manage these devices.

Understanding on Networks LAN/WAN.  
Storage and archiving of digital content

Yes a special set of skills is needed to tackle the ever changing world of media which is becoming more IT based than it was in the yester years. New products are being produced to make broadcasting better so should the skills evolve



## Media staff < > Feedback

Which software or hardware should be developed locally for broadcasters?

(5 responses)

Play out and editing softwares

Content management systems

Playout systems, cataloging tools and media streaming solutions.

Where the software or hardware is developed does not matter as long as they are globally competitive in cost and quality. But training and support need to be local.

The software which can be developed are script writing; advert server systems; social media platform.

It will take them time to replace the foreign one but with proper learning structures and the good will of all the stake holders this can be achieved

develop an ecosystem of software developers, hardware developers geared towards media technologies and look at Africa as one market

By developing skills to support and manage these solutions. Then building thier own solutions to replace these off the shelf solutions.

Local compnaies must build capacity for training, implementation and support for since thats the largest part of the total cost of owning systems. Local adaptions of the imported systems will then be the next natural step.

This will be very hard because 90% of the products used are foreign however we can develop software which can be done to fit various broadcasters needs.

## Broadcast < > Future



**'Selfie' News** - Swiss TV station abandoned standard cameras for iPhones and selfie sticks



**Action cameras** (Live mobile + 4G EE) -  
<https://m.youtube.com/watch?v=biLP4KAHxEk>



**Dronie** (Selfie + Drone) -  
<https://m.youtube.com/watch?v=biLP4KAHxEk>

**Periscope.tv** - live mobile video, saved broadcasts, search and support for drones.

**TV COMPANIES  
ARE BECOMING  
DIGITAL COMPANIES**



**DIGITAL COMPANIES  
ARE BECOMING  
TV COMPANIES**



??



## Dronie = Selfie via Drone

<https://www.youtube.com/watch?v=biLP4KAHxEk>



## **Other** < > **Skills**

- Project management (and strategic value)
- IT Service Management (delivering customer needs and improvement)
- Research, Design, Technical reports
- Communication (non-technical report writing)
- Business Management skills (strategy, customers)

## Internship < > Ready

- Students should attend seminars by industry experts
- Academia and Industry hold exchange programmes
- Broadcasters need to open-up to research by academia and technical experts (e.g. *would have prevented Digital Migration Crisis*)
- Academia needs to package research for the broadcasters in non-technical messages





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