

Insights Broadcasting Digital Migration

THE FINITE SPECTRUM

The fine art of digital channelling

New channels will affect the entire industry

M-Net is conducting pay-TV digital broadcasting trials available to a select group of existing subscribers in Cape Town, Durban and Johannesburg. The trial will shortly be expanded to include Pretoria.

According to Karen Willenberg, director of regulatory and legal affairs for M-Net, the pay-TV broadcaster has been working closely with the free-to-air broadcasters who are conducting parallel trials.

She says the trials have been a learning curve, but importantly they have provided an opportunity for broadcasters to iron out problems before a commercial launch to the public.

Bronwyn Keene-Young, e.tv's chief operating officer, says e.tv

has been a part of the SABC-led test broadcasts. She says the broadcasts are continuing and have been beneficial, informing all broadcasters about a number of issues impacting on DTT, which include: installing the set-top box; identifying aerial problems; the use of the electronic programme guide; identifying interference issues; and resolving operational issues.

On the issue of a date for the commercial launch, Willenberg notes that moving from a testing phase to the launch of DTT will not be possible until certain regulatory processes are finalised.

These include the finalisation of a specification for the decoders or set top boxes (STBs), the broadcasting frequency plan and Icasa's regulatory framework that talks to the allocation of channels.

"It is very difficult for any of the broadcasters to complete business plans, because we don't know how many channels we are going to be allocated. Likewise, the content available on DTT will be guided by our allocation of channels," explains Willenberg.

"Research supports the fact that one of the most important enablers for a successful migration from analogue to digital is the availability of additional channels on digital — this is what motivates consumers to go out and buy a digital STB. Broadcasters have made a strong argument to the regulator for the allocation of as many channels as the technology will allow — this will create value for consumers and facilitate a speedy migration."

"However, we recognise that Icasa has a difficult task, because there is a finite amount of radio spectrum available and during the dual illumination phase they have to accommodate all the existing analogue services plus they have to optimise the capacity that digital presents to make sure consumers are given access to new channels."

According to e.tv it is in consultation with Icasa regarding the published draft channel allocation: "We are confident in the process being followed by Icasa which will lead to the areas of

dispute being resolved to the satisfaction of all parties concerned."

Willenberg reports that preliminary research conducted on M-Net digital broadcasting trials show they already have expectations of receiving more channels, and they responded very favourably to the vastly improved audio and video quality.

She says SA is able to learn from the experiences of other countries and avoid mistakes.

"In every country in which there has been a successful digital migration, we see three factors which have been critical to their success: compelling content on DTT that is not available on analogue; an affordable STB; and excellent communication with the public regarding the digital migration process."

There is already some confusion about this process. For example, the effect of migration on digital satellite subscribers.

Willenberg points out that subscribers to digital satellite services (like DStv) will continue to receive their services without threat of switch-off or being affected by the BDM because their TV signals are already digital.

According to Keene-Young, the commercial launch of DTT will change the local television industry; offering viewers better signal quality, more channel choice and access to a programme guide.

However, she says while the advantages are crucial, the switch-over will add pressure on incumbent broadcasters.

Some of these include:

- The dual illumination period when incumbents will need to broadcast terrestrially and digitally until the terrestrial signal is switched off.

- The fragmentation of the television advertising market as a result of the proliferation of channels. This will affect the commercial viability of existing channels.
- Broadcasters also face the prospect of delivering new channels so as to promote the take-up of the digital boxes.
- Educating the public as to the advantages and necessity of buying the digital box.



Inherent flexibility of digital television

IMPROVED picture and sound quality and reduced problems such as ghosting and interference that affect viewers in a hilly environment or areas with high-rise buildings are among the benefits of Digital Terrestrial Television (DTT), according to István Bozsoki, senior telecommunication engineer at the International Telecommunications Union (ITU).

Delivering the keynote address at the regional seminar on DTT broadcasting in Singapore recently, he pointed out that in comparison with analogue broadcasting, digital broadcasting makes more efficient use of the available spectrum.

The same bandwidth for transmitting one analogue programme channel can accommodate at least four digital standard definition television (SDTV) programme channels.

"The switchover from analogue to digital broadcasting will create new distribution networks and expand the potential for wireless innovation and services. The digital dividend

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20 resolutions to smooth to digital

Conference produces a roadmap

Digitisation and the Challenges of Broadcasting was the theme of the 7th Biennial Conference of Africa Broadcasters, AFRICAST, held in Abuja, Nigeria, October last year.

The conference was the best attended since inception, with more than 300 participants featuring a number of papers by scholars, professionals, veterans and captains of the ICT industry.

At the end of the conference, the participants resolved that:

- Digitisation of broadcasting is not only necessary but also imperative in Africa. This is because it has the potential for revolutionising the media and communication activities within the continent, creating better business opportunities and redefining national values.
- African countries must strive towards meeting the ITU deadline of June 17, 2015 for broadcasting to transit from analogue to digital.

Otherwise, they stand the risk of being isolated from the world's broadcasting community.

- Policy makers and investors should take into consideration the peculiarity of the African environment, in terms of poor infrastructure and low personal income, in planning for the transition from analogue to digital broadcasting.

- African governments should enact and enforce laws banning the importation of analogue television sets into their countries. Also, they should fast-track the transition process. Both measures would help protect the continent from being turned into a dumping ground for obsolete analogue broadcast equipment.

- African countries must adopt a deliberate policy of carrying their peoples along in the transition from analogue to digital broadcasting. Accordingly, they should immediately embark on aggressive public enlightenment campaigns to mobilise and sensitise the public on the process, benefits and implications of digitisation.

- The success and sustenance of digitisation in Africa will also require that governments lay emphasis on manpower development, encourage a sustainable maintenance culture, and energise their broadcast regulatory bodies

through adequate funding and less political interference.

- Digitisation has far-reaching implications and daunting challenges for governments, broadcasters, regulators and the people. The success of the transition will depend, on the co-operation of these parties.

- African countries should realise that, no matter what effort they make to achieve total digitisation, some of the challenges associated with the transition would still remain, due to the peculiarities of the African environment. Therefore, there is the need to set up appropriate mechanisms.

- The use of Set-Top Boxes (STBs) in the switch-over should be seen only as a stop-gap measure. Therefore, African

countries should strive for local production of digital broadcasting facilities.

- Operators of the broadcast industry must be prepared to re-equip their stations with appropriate digital equipment, recruit and train their personnel and produce adequate local content.

- Digitised broadcasting emphasises content production and distribution. African broadcasters should produce quality African programmes.

- The Advisory Committee on Digitisation in African countries should research the needs and implications of the transition project, so that they can offer useful advice to the government.

- Digitisation implies more than its technological dimensions. Governments should formulate comprehensive policies on digitisation and enact enabling legislation, based on the realities of their local environments.

- Planning for digitisation should include the procurement of spare parts along with the digital equipment. The old practice of acquiring equipment without back-up spares had been the bane of broadcasting in Africa.
- Broadcast regulatory bodies in Africa should create awareness on the forthcoming digitisation. They

should equally concern themselves with the quality and state of broadcast equipment, infrastructure and personnel.

- African governments should be ready to empower their people to enable them to benefit from the dividends of digitisation. This, they can do by subsidising the cost of STBs.

- Each African country should consider floating a single national carrier, while allowing individual stations to concentrate on content production.

- African authorities should consider, seriously, either to grant a single licence for both multiplex and channel, or a separate licence for each.

- The older broadcasting stations, which have vintage programmes in their archives, should seek to meet the challenges partly by digitising such archival materials.

- Digitisation demands comprehensive planning, adequate funding, improved know-how, infrastructural development and aggressive content production. African countries should anticipate and tackle these challenges if they are to move to digital broadcasting by or before the ITU deadline of 2015.



Bronwyn Keene-Young

WEB EXTENSIONS

'I live in Joburg, work in Spain, shop in London and bank in LA

Ever more aspects of our lives are being transformed

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The ITU says that digital technologies have brought about sweeping changes for the workplace. Not only can offices be entirely virtual, but a raft of new applications — from remote and mobile email to video-conferencing and teleworking — are emerging, meaning greater flexibility and efficiency in the workplace.

"Our speedy transition to a digital world has been boosted by a host of favourable factors. The foundations of today's digital world were first laid by network digitalisation. This was then helped by telecoms market liberalisation, the advent of more and more competition and the creation of environments in which this could flourish. Increased competition meant a broader choice as well as price cuts for end users, making ICTs more accessible to even more people.

"Mobile user numbers across the world have soared in recent years, for example, as have broadband users, reaching some 217-million in 2005. More and more technologies are going digital — the most recent example being television, with the advent of IPTV," says the ITU.

An ongoing adoption of digital technologies and applications will not be without potential pitfalls, and a number of important challenges need to be addressed to ensure continued growth.

Ensuring easy usability is one critical area, according to the ITU. "Manufacturers face an increasing dilemma of finding a middle ground between what does the job (or indeed does multiple jobs) but is also simple, easy and user-friendly enough for as wide a set of consumers as possible.

"Regulators and policy makers also have important roles to play in shaping the digital world of tomorrow. So many new converged product offerings on the market will blur traditional telecommunication definitions, but need to be classified. Are they traditional telecommunication services? Or do they qualify as broadcasting? Or other forms of content?"

"Not only will such classification have an impact on how services are marketed and priced, but it will also affect how regulators and policy makers examine the level of market competition in a particular sector."

With players operating across so many sectors, it will become harder to pinpoint exactly who is doing what, warns the ITU.

Regulators will need to consider the level of substitutability between cellular mobile and other advanced wireless services such as WLAN or WiMax. The question of timing will also be crucial; who will decide, for example, when a nascent industry such as WLAN or WiMax has become a mature one and thus what types of regulation need to be applied. The issue of spectrum and how different wireless technologies should coexist alongside one another is also a major concern, as the availability of adequate spectrum is critical to support future services.

From shopping to socialising, creating our own innovative content or simply paying our bills, there is no doubt that web-based interaction has come to play an important role for many people.

It has also raised a very interesting conundrum, according to the ITU, that of our digital identity and how to keep it safe.

"We need to be sure that, for example, no one can steal our identity and use it elsewhere (on the internet or on the other side of the world) to obtain a mortgage, pay a bill, or interact with anyone. In addition, we have to be sure that if we accidentally reveal too much personal information in the wrong

place, we won't be deluged with unwanted content.

And, critically, that the identity of our children on and off the web is kept safe, that they cannot access content which is inappropriate or be accessed by anyone unsuitable.

"Imagine if all these fears could all be allayed by an effective global identity management scheme. If this could be implemented then our transition to a digital world would be even more rapid."

According to Lara Srivastava, policy analyst at ITU, the answer lies in revealing only a part of our identity at a time: "The key lies in establishing digital identities which would consist of a series of partial identities. The various aspects of one's identity should only be revealed as and when they are needed."

In order to make this vision a reality, a comprehensive digital identity management system would be required, so that users would never be able to reveal unnecessary information, and so that no one could ever piece the various elements of an identity together, in order to steal a "full" identity. According to Srivastava, such developments may not be too far off, but efforts at the global level are required.



A key challenge that the digital world faces is to extend its benefits to all the world's inhabitants

"Work is currently being done in many quarters to create a system which would have the power to effectively manage identity, but issues such as monitoring of identity service providers and global interoperability have yet to be resolved."

While the developed world basks in the benefits of digital technologies, the story in the developing world is somewhat different, with ICT access still a distant dream for many. Things are changing though, and in some

places rather rapidly.

The ITU says that thanks to digital technologies — particularly mobile — major inroads toward bridging the digital divide have been made in recent years. Not only has teledensity more than doubled in many least-developed countries since 2000, some have boosted connectivity by 20 times or more.

"In many developing countries, mobile has become the technology of choice, beating fixed line hands down. With long waiting times for

fixed line connections, mobiles provide immediate, easy-to-use ICT access. Increased mobile sector competition has helped bring call charges down, and the introduction of pre-paid cards have also been critical in helping boost take-up, and in making services affordable for a whole new set of consumers.

"Internet usage is also on the increase, albeit at a slower rate than mobile, with internet user penetration in a number of LDCs now reaching the 5% mark, according to ITU: Cape Verde and Togo both stood at 4.9% and Senegal at 4.6%.

"Nevertheless, a key challenge that the digital world faces is to extend its benefits to all the world's inhabitants," says the ITU.

In the words of the Geneva Declaration of Principles of the recent World Summit on the Information Society (WSIS), the goal is to build an Information Society where "everyone can create, access, utilise and share information and knowledge".

Working to extend the benefits of ICTs is one of ITU's core aims, and it carries out much vital work in this area such as examining innovative ICT applications for development, producing key publications, plus helping advise countries on the most suitable technologies for deployment to help extend access to ICTs and the digital world as a whole.