

The UK chapter of the IIC met at the end of January. The hot topic?

Mobile Television - Killer App.?

Report by Rex Winsbury

Will a mobile TV that also happens to act as a mobile phone and mobile text-messenger become the TV screen of choice for ordinary consumers as they move round the house? That was the intriguing but challenging prospect raised at a vigorous discussion of the potential for mobile TV. And what would the animal look like when it fully emerged from its lair in the deeper recesses of the spectrum? Who would be its keeper? And after all the shouting, will it be good for nothing more than an alternative way of watching the same old TV soaps, music clips and news programmes so familiar from our old friends, terrestrial and cable TV?

Such companies as Vodafone, Orange, 3 and BT are conducting or have conducted trials of mobile TV in the UK. Recently, as reported in the Guardian newspaper of London, Vodafone has made deals with HBO, Eurosport, UEFA Champions League, MTV, Discovery and Twentieth Century Fox Television for 'content' for its TV Variety Pack, which is additional to its recent arrangement with Sky for Sky's 'Sky Mobile' 19-channel offering. Mobile operator 3 is also signing similar content deals.

Another major trial is reported in Helsinki. But it seems that the Koreans are leading the field, so that Europeans may not have a free hand in deciding their answers to these (quite momentous) questions. Korea has already launched, last year, two mobile TV channels - the only country to do so, so far - and is getting high levels of usage. What is more, there is a battle of the standards in the offing (again). Korea is championing the so-called DMB technical

standard, while the Europeans favour the alternative DVB-H standard. That said, the Koreans are reportedly open to the idea of using the other standard, but are already setting up commercial alliances in Europe, and want to globalise their preferred standard. Watch this (spectrum) space.

All this may seem premature, partly because the exact spectrum space to be available is not yet clear, although it may become clearer by the end of this year (2006). Whatever does become available, may not be available until 2012 - though some say earlier. However, there is already evident a scramble to attain the notorious 'first mover advantage' that is said to be the key to success in rapidly changing communications markets.

For existing cellular operators, the route is to sign up familiar TV 'brands' to form part of a bouquet or multiplex (chose your terminology) of channels to put on offer to the new consumers. Such operators see mobile TV as the next wave, after voice (first) and text (second, and now), to drive, even revive, mobile markets - in short, a must-have.

Broadcasters, or at least those choosing to be pro-active in this still uncertain arena, are keen to find out what exactly a TV broadcast (if, that is, it is a broadcast) would look like over a tiny mobile screen, at however many frames per second the future technology will allow. Should they, for example, allow other organisations to organise and therefore control the mobile TV offering as it appears to the customer on-screen, or should they create and promote

their own portal or platform?

Will they be content sub-contractors or prime presenters? Will it just be about selling downloads? What will be the role in all this of funding by advertising, or will it be a pay-per-event market? Can a broadcaster remain 'technologically agnostic' in terms of content offerings to the consumer?

Not the least of the drivers for both mobile cellular operators and existing broadcasters is the threat (even the actuality) that a new breed of enterprise will emerge, an enterprise that acts as the aggregator and designer of the mobile TV package, or packages, by buying in material from existing sources, piggy-backing on their existing reputations and brand-recognition factors, and providing those packages to the cellular (existing or new) operators.

Such wholesalers - of which there is already at least one example in the USA - would of course have negotiated the rights and contracted the operators, encoded and trans-coded the programming, and so be in a strategic (dominant?) position in the new mobile TV marketplace. Such newcomers may offer their wares to existing cellular operators, as wholesalers. But they may also offer their wares direct to the consumer, as retailers - a disturbing possibility to some.

Interestingly, at least one American newcomer of this type reports a frame rate of only 5 per second as being acceptable to US users, some of whom, when questioned about this, replied "what else do I do with my mobile?" It is said that 15 frames a second will be the norm in the UK - the Oxford trial (see below) was at 12.5 frames and said to be adequate

What is not yet clear, and probably will not be for some time, is what exactly mobile TV *is*. It takes several flavours at this early experimen-

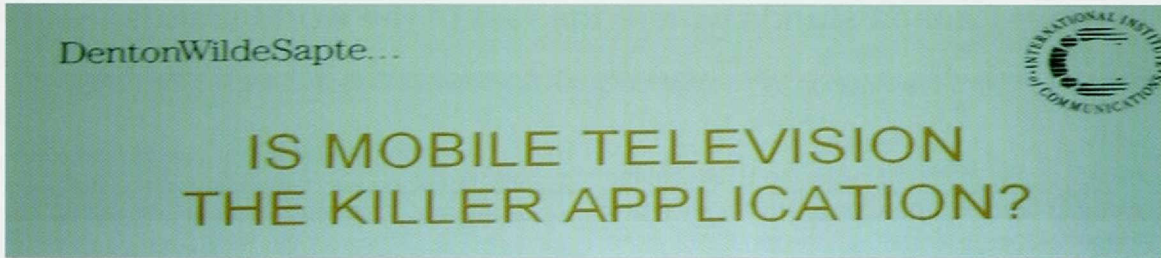
tal phase. Is it just streaming of existing TV programmes, live or otherwise? Is it full length or chopped down i.e. issuing, on demand and/or for payment, cut-down versions of popular TV series, sometimes called (apparently) 'mobisodes' - sort of Neighbours in two minutes and War and Peace in ten. Is it about text alerts and video clips? Or will it be special made-for-mobile TV shows - which will be as expensive to make as full-screen TV shows, so demanding an equivalent strong market to justify financially?

Will it, in short, be a piggy-back, even parasite market, or a new type of TV? And how do you schedule the stuff - how do you click into a stream? And if, as some say, the promise of mobile TV is 'the personal TV', where will that leave those who are literally 'broadcasters'?

The recent trial carried out by O2 around Oxford (UK) has yielded some interesting results. The material included streaming of 'real' TV and clips of 10-15 minutes. One result was a high level of usage among the test group, at over 3 hours per week average, with a duration of 23 minutes average. The small screen appeared to be no disadvantage. Another result was that the main usage (by a clear margin) was not while on the move or at least when away from home (which is what one might have expected) but actually in the home, while moving around in it, say, to the bathroom.

As reported elsewhere, the quality of made-for-mobile still leaves much to be desired and needs more thought, and the basic attraction, at the moment, is what is watched on ordinary TV - a slightly down-beat finding.

Early days, perhaps, but it also raises the question of whether the mobile phone-TV will be in competition with the 'fixed' TV sets in the house and/or with the mobile TV sets that may



also be in the house - in which case, there will be a clash of the titans.

A related issue is how many 'channels' should be offered? The Oxford trial had 16, and there was a suggestion that such a figure could be about right. But the huge advances in the bit rates that are forecast for the future, may radically alter the possibilities. The 'ladder of increasing bit rates' (or increasingly confusing acronyms) looks a bit like this:

- GSM/ GPRS
- EDGE
- UMTS
- HSPA (will require new handset - 1.6 to 14.4 Mbps -2006/7?)
- HSPA plus MBMS (will introduce true broadcasting to multiple users - 2007?)
- DVB-H and/or DMB (rival standards, using different frequencies: former favoured in Europe, latter in Korea: will require new licensing regime: could allow 20 channels)

Around this chart, lots of issues float, e.g.

1. When will dedicated mobile TV networks be needed?
2. When will spectrum be available?
3. How should spectrum be allocated - to

broadcasters, to cellular operators - by auction?

4. Who should build and/or operate mobile TV networks?
5. Which will be the preferred standard?
6. What will be the role of the cellular network operators?
7. Will mobile TV really be that 'killer app.'? Or will, for example, HDTV or other new technologies be in competition for spectrum and/or for users - or will they coexist and be complementary?

In the end, it may be down to the consumers - will they decide that they only want one single device to carry around with them to get TV, calls and messages (etc.), and if so, will it be son-of-mobile-phone? There have been pessimistic research reports, to offset the optimistic tone of O2, suggesting only a minority interest in watching TV on mobile phones - with a large majority actually hostile to the idea.

Success will be "about providing a different experience around the programming", said one speaker. Said another

" Probably, the killer application will be content with interactivity".

The task now is to work out what that means.

High Definition Television – There’s No Looking Back Where Canada stands, where the rest of the world stands

Extracts from a presentation by Michael McEwen, President of Canadian Digital Television

“I’m not going to concentrate on the USA, except to say that in my view the **USA** is in the mature part of its transition to HDTV. Most over the air broadcasters are on the air, distributors are carrying over the air and paying specialty services in large amounts, and the hook-ups to these services are on the curve end of the hockey stick. By 2009 the USA is looking at analogue shutdown and we’re looking at upwards of 85-90 million HDTV displays in households by that time.

Korea and **Japan** are on an equally fast track, no surprises, Japan has led this technology for many years, but Korea as well is getting its services both up on satellite and over the air and, where appropriate, on cable. A lot of interactivity with the Korean experience, some interactivity coming with the Japanese experience, so not only is it great pictures and great sound, but a chance for the viewer to participate as well.

Taiwan is also making some efforts in that direction. And we’re seeing other countries in **Southeast Asia**, and **Australia**, now well into the transition phase. There are some issues there but nonetheless, they are into it. And we’ll be seeing **China**, **Singapore** and **India** following in the next few years.

In **Europe** a few years ago I was told that Europe would never go high definition. Wide-screen PAL was good enough and that was the way it was going to stay, because it was better than the North American standard and besides, European rooms and households were not big enough to take wide-screen television.

Well, something happened on the way to the party. I gave a speech on high definition in Europe about two years ago and, as opposed to four years ago, I got replies on e-mail from just about everybody in that room - it was at the EBU, the European Broadcast Union, General Assembly.

The President of the **EBU**, Arne Wessberg, who is now the president of the **IIC**, created an EBU taskforce and they came up with an

HDTV transition plan for public broadcasters in Europe. What we are seeing now is the BBC active, the Germans going ahead with HD trials, we’re seeing Sky Television in the U.K. putting up four channels of HD on satellite. And HD will probably start on satellite in Europe first because they have spectrum problems. But they are getting there and that is a really important change in terms of the global HD marketplace.

HDTV in Canada

So where are we in **Canada**? It was about ten years ago, almost to the month, that we did the very Canadian thing and created a taskforce under the ministers of Canadian Heritage and Industry Canada. That taskforce met for two-plus years and at the end of 1997 delivered its report.

I had the privilege of chairing that taskforce. In taskforces it is much easier to find consensus than when you try to implement those recommendations in the real world. It was a wonderful taskforce, it did have a nice blueprint, but things got a little dicey when we went to implement.

Basically, the government accepted the wisdom of the taskforce report, but left many of the recommendations sitting on the table and sort of said, in 1998, we think it is a marketplace approach that should be Canada’s strategy, we are going to give you some spectrum, which Industry Canada kind of did for DTV over the air broadcasting, and the CRTC said we will come up with some licensing regulations, which they have done and are still doing. And that’s where we sit on that front.

Out of that taskforce, Canadian Digital Television was created, which is an industry not-for-profit association that is helping to transit from analogue to high definition television across a broad spectrum of services over the air in specialty services. When CDTV was set up its board met and said it would be prudent if Canada would lag behind our American cousins in deployment by about two years.

This would ensure that the technology was stable, that the cost curves would come down in some of the equipment prices and consumer product prices, and that there was a body of programming starting to be created.

Where are we now?

Now this was back in 1998, the Americans had just started with the first top ten stations in 1998, and we had nothing on the air. So here we are, seven years later, and basically what we have is the American system pretty well on the air, on all of the stations.

There are a few small ones and some problem areas that still are not, but almost 16 of its stations are on the air. We have, in Canada, stations on the air in Toronto and we have one transmitter in Vancouver, another in Montreal. We have some pay and specialty services, a couple of sports networks, Discovery HD, and of course we have the movie network.

But we don't have a mass of Canadian services on the air, certainly not in a regional sense. And furthermore, we sell sets in about the same percentage terms as the Americans, so there's about a million and a half HDTV displays out there right now. And you've got to ask, well, what are they all watching? Well, they're probably watching wide-screen DVDs.

You can get a pretty good picture on that. But the hook-up rate, either cable or satellite or picking up an off air signal, is not great, and we figure that it is only about 200 to 225,000 of those one and a half million sets (maybe by Christmas-time the figure was closer to two million). So, we know that we have an issue in terms of hook-up.

We have some distributors doing a really good job of carrying multiple Canadian services and American services, like Rogers and Bell Express View. But other service providers and distributors are not doing as great a job. So the marketplace is uneven across the country, and there are a few, if any, regional services.

And the final thing is, and it's very worrisome, that there is very little Canadian high definition product being produced. About 5-8% of Canadian-produced product or commissioned product from all broadcast sources is in high definition.

I can't give you an exact figure, but that is our best estimate. We have got to do something about the two issues I've identified i.e. take up rate, in other words, hook-up to HD, and Canadian high definition content. That is the mandate that my board is giving me through CBTU for the next year and we'll be working with the industry on that along with the relevant government departments. But it is a challenge.

Final assessment

The final challenge has to be the building out of high definition infrastructure across the country. We are not seeing broadcasters jumping to build transmitters as we saw in the United States. Maybe it is because we do not have an analogue shutdown date in this country. It is a great incentive if you are going to lose your spectrum.

On the other hand, we've got a huge geography and a sparse population base and it is very expensive to duplicate that system. And some broadcasters have gone as far as to say that if the government wants to build out HD and digital transmitters, they should pay for it. So we still have some challenges to meet.

The final assessment is that the original two-year lag time that the board put in place seven years ago saved the Canadian industry and saved the Canadian consumer tens of millions if not hundreds of millions of dollars. It was a wise decision. It was also a safe one - don't get ahead of the curve, let the technology be proved.

But now we are not just two years behind, we are four years, maybe even five years behind and we're sliding badly, by all the indicators, high definition broadcast infrastructure, services on the air, and in the production of Canadian high definition programs.

From a public policy point of view, we have really got to ask ourselves the question; are we in the game or are we not? And if we're not, should we be, and what are we going to do about it?"

When will HDTV be amazing and not just kind of OK?

Extract from presentation by Peter Smith, Vice President of Advanced Technology at NBC Universal and President of the North American Broadcasters Association.

"You go into consumer electronic stores in the USA these days and are faced with a battery of televisions, and those televisions are high definition televisions. Who could predict that flat panel TVs were going to be so popular? We did not expect such a huge increase in flat panels. They have really taken over the business, plasma and LCD panels are literally being sold out as they arrive in the stores.

The beautiful thing from our point of view is we now have integrated tuners in those sets and we have an FCC mandate that all sets over 25 inches have to have a tuner by March 2006, and by March 2007 every receiver with any kind of VCR, whether it be a PDR or a TV set, has to have a digital tuner in it.

Predictions for TV sets are really quite interesting. The Consumer Electronics Association was slightly off in their predictions for 2005, but they were off by underestimating. So by the end of 2005 in the United States there were 14 million TV sets capable of high definition display and are capable of receiving high definition television signals. In 2006 it goes up to 38 million and by the time the Beijing Olympic Games are transmitted in 2008, we are looking at virtually two thirds of the homes in the USA having some form of high definition.

Production concerns

But there are lots of production concerns. When you have a 4 X 3 and/or a 16 X 9 audience, how do you get the best out of the 16 X 9 image when you have to worry about the 4

X 3 image that most people will be seeing in these early days? Again, not every piece of equipment that is available to make television is available in high definition. Things like standards converters do not exist. So there is a long way to go. We're probably 50% there in terms of being able to produce every show we do in high definition because of these issues.

Issues for the future

The biggest issue is consumer understanding. We probably have 50% of the homes that think they're watching high definition actually watching high definition. We have homes where the cable box is high definition, the TV set is high definition and the connection between them is analog and SP. It is a situation where there has to be more effort put into having people understand what high definition is.

We need a lot more effort to look at the other platforms, such as computers, that are available these days. A high definition television picture can work just as well on those, and viewing distance is the issue.

The cost is an issue. We have a situation where people know that the cost will come down so they are waiting, because they know that prices are dropping. We need to work more on protecting content, and we need to figure out why some productions in high definition are amazing and some are kind of OK. And once we figure that out then we'll be in a much better position to provide an experience that people will look forward to."

Digital Terrestrial Television: a Franco-Italian Dialogue

By Pierre Braillard

Even when DTT was still at the blue-print stage in these two countries, their IIC Chapters decided to compare strategy by convening an annual meeting alternately in Rome and Paris. The sixth meeting was held in the French capital on 18 November 2005, hosted by the Broadcasting Regulatory Authority, the CSA, and co-chaired by Henri Pigeat and Franco Morganti.

Government policy

Mario Landolfi, Italian Minister of Communications, recalled that, as every other country, Italy has to tackle the switch-over problem. "Italian policy is clearly oriented as an incentive towards the consumer, offering fully interactive services, and that is one of the differences with the French approach", he said. So a real testing ground of digital services has been created in the form of a *democrazia digitale*, with heavily subsidized set-top boxes. By the end of 2005, 3.8 million viewers will have been equipped.

Regarding digital coverage, the decision was taken to switch-off analogue in Sardinia and the Val d'Aosta, where people readily bought their STBs. The final date for the big switch-over in Europe has been set by European Ministers of Communications in the time frame 2008 to 2012. Italy plans to adopt the early date of 2008.

Another point underscored by Landolfi is the new remit of DTT in terms of public administration i.e. in exploiting digital resources and flexibility to facilitate the citizen's day-to-day life in relation to the complex red tape system of the country." Where DTT is present, it can also integrate the Internet's interactive services, which are more easily accessed via TV sets, especially by old people. But the key point was probably that:

"this buoyant technology imposes upon governments and law makers the duty to design long-term legislative measures... considering that the whole process cannot be left to the operators only, but should be managed

by the political power which has to set itself the task of guiding the public through the great changeover."

The viewpoint of the French government was given by Cécile Dubary, Direction du Développement des Médias, Prime Minister's Office. The guideline is to accelerate digital coverage, aiming at 85 percent of the population by March 2007. A special fund was established to finance the cost of changing frequency allocations, to investigate what part of the spectrum may be available and, last but not least, to help negotiate with neighbouring countries and the defence services proper frequency planning.

But the digital multiplex should be accessed by every household, so total DTT coverage cannot be frozen at 85 percent. So the government is encouraging all efficient alternatives, including free-to-air satellite. Provision is also being made for launching high-definition television, and tests are currently made with mobile television. "Viewers have to be convinced that DTT is not just a system offering them additional channels, a better analogue TV, but a truly new medium in terms of quality and interest."

Regulators at work

Corrado Calabro, President of AGCOM - l'Autorità per le Garanzie nelle Comunicazioni, said that an urgent matter was to free more frequencies as required by the advanced technologies and their new scenarios "which respect no defined rules". The guideline for regulatory authorities guideline should be to guarantee to the new society both freedom to inform and to be informed, which demands the setting of some limits to market power.

"The must-carry rule should allow all content to be found on all platforms in accordance with the principle of technological neutrality." But because of limited spectrum, DTT will need specific regulation. The regulator has also to check that, besides neutrality of platforms, there is effective competition between the programmes offered to the public.

Citing the recent Recommendation from the European Parliament (16 November), urging Member States for adopt a quick transition to digital television, Calabro observed that "we cannot remain much longer in a state of uncertainty about the present phase in which analogue transmissions have to be maintained, thus preventing us from fully deploying DTT across the country."

Philippe Levrier described the French regulatory position. The CSA, Conseil Supérieur de l'Audiovisuel, grants a 10-year licence and allocates spectrum to TV channel operators (both free-to-air and Pay tv), the licence being renewable once for 5 years. Then the Authority regroups the licenced channels on the multiplex to ensure a fair degree of harmony between competing operators.

The latter are free to choose the operating company in charge of transmitting the multiplex, the CSA having only to register the agreement between them. The case of Pay-tv channels is however a bit different. The terminals which will be distributed by the commercial operators should be able to receive all Pay-tv channels. There is a legal obligation for these terminals to be fully interoperable, while the CSA may impose remedies should they not comply.

PSB channels have a right of preemption, as was the case with analogue. They were offered an additional DTT channel on top of the simulcast of their analogue programmes, and all accepted. The philosophy of the CSA is governed by obvious rules of pluralism and by admitting new entrants. An anti-trust provision limits to seven the channels controlled by a given broadcaster.

Six multiplexes are planned. Seventeen channels are 'free' (in effect 18, since there are two channels for Parliament) with eleven Pay-tv channels. Last March, 14 free channels were launched covering 35% of households. In September 2006, coverage will reach 65%, and 85% in March 2007. Two Pay-tv channels are already expected: Canal + and TPS. Today, the law provides for the complete switch-off of analogue to be effected five years after DTT has started, which means 1 April 2010, but the CSA may object that "the conditions are not met."

Then a more realistic policy will probably be the one followed elsewhere i.e. closing regions and/or frequency bands progressively. Complete coverage will be reached by using all vectors available, cable, satellite and ADSL. A forecast is that in 2010 19.7 million households will receive DTT programmes - a good figure which nevertheless leaves 4 million out of reach of DTT.

Promotion and forecasts

The person in charge of the organization for promoting DTT in Italy, the DGTVi, **Andrea Ambrogetti**, listed three main requisites for successful deployment of DTT in his Italy First, an enormous financial effort by the government: 300 million euro, and an effective environment enabling operators to build the transmitter network in good conditions. Second, the equally large investments by the private sector - in excess of 600 million euro - for creating multiplex and programmes. The third lies in the vertical organization of the whole system, integrating all players.

Philippe Levrier said that candidates for TV channels had to pledge to invest appropriate monies in the project, which was guaranteed by their parent company. But not many figures were quoted. Angiolino Leonardi, of RAI Utile, mentioned two billion euro per annum as the operating cost of DTT in Italy. Operators will have to pay for their frequencies, but the frequency trading scheme may alleviate their commitments as they may resell frequencies which they cannot use.

Florence Le Borgne of IDATE, the renowned research organisation, recalled that one third of French viewers are already digitised with a lot of programmes received through cable and/or satellite, by subscription. DTT will mostly appear as another linear tv system. So far, interactive and PPV have met only limited success, while broadband cable and ADSL + may offer strong competition to DTT.

But DTT has a trump card with its free-to-air additional channels. A point of equilibrium is bound to evolve between the different platforms. Then the role of Premium programmes could be decisive. The big question is how well advertising will be able to foot the bill.

Professor Roux of Paris University XII was a member of the Telecoms Regulatory Authority, ARCEPS, and to-day he is heading a Government Mission on DTT Deployment. The seachange in the world of communication is stronger than ever before, he said.

In that perspective, the role played by DTT goes beyond mobile tv or high-definition DTT. It is the harbinger of a profound transformation. The issue of national coverage remains highly critical. What happens if Val d'Aosta is switched-over in a few months while their neighbouring French departments are still only offered the old analogue networks?

New entrants

Marc Pallain, Executive vice-president of NRJ, a Radio broadcasting Network operating in many European countries, recounted how they decided to jump into the tv arena. The analogue tv landscape is so crowded that there was no room for new entrants, and so they decided to set up a group of broadcasters to get ready to join the digital channels.

France Télévision joined us, some others did not e.g. TF1 and M6. "We believe that DTT will transform tv practice in the same way that transistors changed radio. DTT will be a success if it manages to lure everyone, including young people."

Xavier Goyou Beauchamps was president of PSB channels and TDF, the network public operator, but is now a new entrant as chairman of Antalis, a private digital network operator. The French law passed in 2000 not only gave the green light to DTT, he said, but introduced competition in the field of network technical operations.

Just like others, Antalis suffered from the successive postponements of the project, thus incurring severe losses. On regulation issues, Beauchamps emphasised the new framework set out by the European Directive which regulates 'Market 18' - that of broadcasting as a telecom service. "Even though the EU process is not exactly fast, this is an important development."

Piero De Chiara, in charge of the regulation department at Telecom Italia, said that they were not yet able to quantify the interactive

services in terms of, say, ROI.

Tullio Camiglieri, Sky Italia, defended pluralism. "We should not repeat past errors, such as when we decided to invest only in autostradas, the result being that we have no high-speed TGV trains... The same holds true for digital television."

Angiolino Leonardi, in charge of RAI Utile, explained how his company could improve and simplify the complex administrative structure of the country. Canal RAI Utile should become a genuine user-friendly 'House of Information', with special attention to welfare and medical services.

Pierre Costanzo, at present director in charge of technologies at France Télévisions, said that DTT offers immediate benefits to the public broadcaster, both in terms of programmes and improved technique. The quality of coding has come as a splendid surprise, the sound also is much improved, with multi-language tracks and facilities for disabled persons. Digital technology is not confined to DTT: it applies to all platforms.

Antonio Pilati, formerly a prominent member of the AGCOM and at present at the Italian Antitrust Authority, referred to the public service status of DTT. "I feel that the formula of a licence fee was better suited to the time of analogue transmission. If the licence fee is maintained, it will be levied on households rather than on equipment."

