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Panel on Information Technology and Broadcasting

Meeting on 11 June 2007

**Background brief on the progress in the implementation of
digital terrestrial television broadcasting in Hong Kong**

Purpose

This paper summarizes the development of and concerns raised by Panel members over the implementation of digital terrestrial television (DTT) broadcasting in Hong Kong.

Introduction

2. DTT broadcasting is a new technology of transmitting television services, in which pictures and sound are processed electronically and converted into digital format for transmission. The signals will be re-converted by appropriate devices, such as set-top boxes, into television programmes. By using digital technology, digital television (TV) improves the audio-visual quality of terrestrial TV, as well as resolves reception problems such as ghosting and snowing. Moreover, as digital TV is a far more efficient and flexible transmission system than the current analogue system and can make more efficient use of the available spectrum, DTT broadcasting can also bring about other benefits, including the possible increase in the number of TV programme channels, introduction of high-definition TV (HDTV)¹ programmes, TV reception on the move, as well as new interactive multimedia applications such as home shopping and computer games, etc.

3. Digital TV services are already available to viewers in Hong Kong via cable, satellite and broadband networks. Terrestrial TV, which is the most pervasive kind of TV service in Hong Kong, has yet to be digitized.

¹ HDTV provides a resolution of 720 lines or more and is capable of generating better picture quality than the conventional analogue TV. HDTV pictures are usually displayed on a wide screen (aspect ratio 16:9, i.e., the ratio of picture width to height) format. Together with the ability to support multi-channel sound system, HDTV enables viewers at home to have same experience as watching a movie in a cinema.

Public consultations

4. The Panel was first briefed on the Administration's preliminary proposals on DTT in the context of the consultation on the 1998 Review of Television Policy, which was conducted to, inter alia, examine the applications of digital technology in local TV services, as well as the transformation it would bring to commercial TV, especially with regard to the development of HDTV, etc.

5. In December 2000, the Administration initiated a three-month public consultation on the policy and regulatory proposals for DTT broadcasting in Hong Kong (the first consultation). The scope of the consultation covered the choice of DTT technical standard, the frequency plan, the licensing approach, the arrangements for transition from analogue to DTT broadcasting, the setting of an analogue switch-off date, and the requirements of set-top boxes. Twenty four submissions were received.

6. Having regard to the views received and the outcome of its co-ordination with Mainland authorities regarding the frequency plan for DTT broadcasting and overseas developments in digital broadcasting, the Administration issued a second consultation paper in December 2003 for a three-month consultation (the second consultation). In particular, public views were sought on the proposed market-led approach to the selection of DTT technical standard for Hong Kong, the allocation of multiplexes² and the licensing arrangements.

7. Throughout the two rounds of consultations, the incumbent domestic free TV programme service licensees (namely, Asia Television Limited (ATV) and Television Broadcasts Limited (TVB)), urged that a decision on the technical standard to be adopted for DTT should not be made until the Mainland had announced the national standard. ATV and TVB considered that if the same technical standard was adopted by the Mainland and Hong Kong, the wider multi-media market would be more attractive to investors of DTT and more business opportunities would be opened up for Hong Kong.

Implementation framework for DTT broadcasting

8. On 9 July 2004, the Secretary for Commerce, Industry and Technology announced the implementation framework for DTT broadcasting with the following major milestones:

² A multiplex is a transmission channel for DTT broadcasting. It has the capacity of carrying four standard definition TV (SDTV) programme channels (and therefore can support multi-channel broadcasting) or one HDTV programme channel at a time if MPEG-2 compression standard is used. An operator may switch from multi-channel broadcasting to HDTV broadcasting and vice versa at different timeslots.

- (a) By 2007, ATV and TVB shall start broadcasting their existing services in both analogue and digital format (simulcasting), and launch a new digital service on the respective additional multiplex assigned to each of them;
- (b) ATV and TVB shall extend the coverage of their digital networks to at least 75% of Hong Kong by 2008;
- (c) If the Mainland has not promulgated a national standard before end of 2006, ATV and TVB will adopt the European DVB-T standard³ which has been widely adopted internationally;
- (d) Subject to confirmation of technical feasibility of using the single-frequency network for DTT broadcasting by ATV and TVB, the Administration will consider the disposal of the two multiplexes kept in reserve; and
- (e) Subject to further market and technical studies, the Government will direct ATV and TVB to switch off analogue broadcasting within five years after the commencement of simulcast, i.e., by 2012.

Overall planning for implementing DTT broadcasting

Investment plans

9. In December 2005, the Broadcasting Authority (BA) and the Telecommunications Authority (TA) respectively approved the investment plans of ATV and TVB for DTT programme service and network rollout, pursuant to their domestic TV programme service licences and fixed carrier licences. In addition to its six-year plan submitted in 2002, ATV has committed an investment totalling more than HK\$400 million up to 2009 to provide a hybrid digital service of HDTV and multi-channel broadcasting. The proposed plan is to launch four new SDTV channels and not fewer than 14 hours of HDTV programmes per week during prime time starting from end 2007. As for TVB, on top of its six-year plan submitted in 2002, it has committed an additional investment totalling more than HK\$400 million up to 2009 to provide an HDTV channel starting from end 2007 with not fewer than 14 hours per day of HDTV programmes.

³ Among the three technical standards which were then available at the time of the first consultation (i.e. the American ATSC-T standard, the European DVB-T standard and the Japanese ISDB-T standard), DVB-T is recommended the most suitable DTT standard for Hong Kong based on the findings of field trials.

Working groups to facilitate DTT implementation

10. Two working groups have been set up by the Office of the Telecommunications Authority (OFTA) with ATV and TVB. One is to resolve technical problems and facilitate inter-departmental co-ordination with respect to arrangement for land lease, planning application and site construction, etc, so as to ensure timely network rollout. Another working group is to handle all technical issues related to DTT reception and receiving equipment. In particular, ATV, TVB and OFTA will work out standards for compliance by electronics manufacturers/suppliers/importers and operators of in-building communal antenna broadcast distribution (CABD) systems. OFTA will also issue guidelines to facilitate the replacement of antennae, as well as upgrading/installation of CABD systems by building management, etc. This working group will also explore the feasibility of a labelling scheme for DTT consumer products.

Enhancement of public awareness of and interest in DTT

11. As the pace and success of digital switchover hinge on the readiness of consumers to take up DTT by purchasing the required consumer products, it is necessary to raise public awareness and deepen their understanding of DTT as early as possible in order to stimulate their interest in the early take up of DTT. Moreover, it is also necessary to provide the public with consumer information so as to help them make purchase decision. As such, the Government has developed a dedicated website (<http://www.digitaltv.gov.hk/>) which contains detailed information about DTT, such as Frequently Asked Questions about DTT, etc. The Government has undertaken that as soon as more information about DTT services is available, consumer education will be stepped up so as to equip consumers with the necessary information, such as the need to buy a set-top box with DTT reception capabilities, etc.

Members' concerns

12. The Panel has followed up closely on issues related to the implementation of DTT broadcasting, and discussed the subject at a number of meetings since 1998. Members' latest concerns over the subject are summarized below:

- (a) Noting that the Government has adopted a market-led approach to select the technical standard for DTT to be implemented in Hong Kong, and that both ATV and TVB proposed in late December 2006 that they will adopt the national standard promulgated by the Mainland in August 2006 for digital broadcasting in Hong Kong, members are concerned ***whether DTT broadcasting, upon implementation by 2007, will affect the reception of pay TV programmes.*** The Administration has explained that terrestrial and pay TV services have different

broadcasting platforms and technologies. Nevertheless, technical issues related to DTT reception will be dealt with by the dedicated working group set up under OFTA.

- (b) Members are concerned about *the progress and financial implications of the improvement works required to be undertaken in public housing estates for implementing DTT broadcasting*. The Administration assures that the Commerce, Industry and Technology Bureau (CITB) will be in close liaison with the Housing Department (HD) and the Hong Kong Housing Society (HKHS) on matters relating to installation or upgrading of in-building CABD systems for new and existing public housing buildings for the reception of DTT services, as well as working out with them the budgetary forecast for such works. As DTT services will be rolled out in phases, whereby some areas will be able to receive DTT services earlier than others, HD and HKHS do not have to upgrade all buildings at the same time. Upgrading work will be implemented in phases with priority accorded to those areas which will be able to receive DTT services in the initial phase. The working group led by OFTA will enlist participation from HD and HKHS in handling issues related to DTT transmission. In this connection, members are of the view that *technical advice and assistance should also be provided to household viewers in private buildings, especially the single-block buildings, to help them migrate to DTT services*.
- (c) Noting that most plasma/Liquid Crystal Display (LCD) TV sets available in the market are not equipped with built-in DTT decoders, and hence consumers will have to purchase set-top boxes in order to view DTT programmes, members are concerned about *the availability of set-top boxes to consumers at affordable prices for DTT viewing*. The Administration has advised that according to the experience in Australia which adopts the DVB-T standard, manufacturers are prepared to produce a variety of products capable of supporting HDTV and SDTV services or equipped with computerized recording function. Depending on the design and functions of these products, the prices range from tens to thousands of Australian dollars. In this connection, members note that the adoption of the national standard of the Mainland for local DTT broadcasting may help mass production of set-top boxes with lower prices for local users.

- (d) Members note from the operational experience in some overseas jurisdictions that there is a decline in the programme content for domestic free TV programme services after the introduction of DTT broadcasting because more pay TV programme services become available at competitive prices. As such, members are keen to *ensure that the Administration will keep the overseas experience in view and that the underprivileged will not be deprived of free TV programme services as a result of the implementation of DTT broadcasting*. In this connection, they note that the survival of the free TV programme service licensees (i.e., ATV and TVB) hinge on advertising revenue and hence the licensees' urge for further relaxation on advertising standards in order that domestic free TV programme services can remain viable. The Administration explains, however, that as terrestrial broadcasting takes up frequency spectrum which is a public asset, it is reasonable for free-to-air TV services to be subject to stricter regulation. Nevertheless, BA has already relaxed the programme and advertising standards for domestic free TV programme services in 2003.
- (e) Since digital broadcasting can result in more efficient use of the available spectrum, some members have urged the Administration to *critically re-examine the possibility of releasing frequency spectrum for setting up of public access channels* to provide, say, a platform for minority groups to express their views. They have also requested the Administration *to explore the possibility of allocating Radio Television Hong Kong with its own channel* so that it does not need to take up the air time of ATV and TVB to broadcast its programmes.

13. While expressing support for early implementation of DTT broadcasting in Hong Kong when the subject was last discussed at the Panel meeting on 18 July 2006, Panel members have requested the Administration to report to members in due course the progress in the implementation of DTT in Hong Kong, in particular how the technical problems related to DTT transmission and reception (i.e., availability of set-top boxes for use by the general viewers) have been dealt with, and how the Administration has strengthened publication and education to assist the public in preparing for the launch of DTT broadcasting.

Latest position

14. The Administration will brief the Panel on the latest position in the implementation on DTT broadcasting in Hong Kong at the meeting to be held on 11 June 2007.

Relevant papers

15. A list of relevant papers is at the **Appendix**.

Council Business Division 1
Legislative Council Secretariat
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Appendix

List of relevant papers

Committee	Paper	LC Paper No.
Meeting of Panel on Information Technology and Broadcasting (ITB) on 5 December 2003	✧ Administration's paper : "Second Consultation on Digital Terrestrial Broadcasting in Hong Kong "	CB(1)470/03-04(07)
	✧ Background brief on digital terrestrial broadcasting	CB(1)460/03-04
	✧ Minutes of meeting	CB(1)712/03-04
Meeting of ITB Panel on 8 March 2004	✧ Submissions from deputations/ individual	(please refer to the agenda)
	✧ Background brief on digital terrestrial broadcasting and related issues	CB(1)1166/03-04
	✧ Minutes of meeting	CB(1)1661/03-04
Meeting of ITB Panel on 18 July 2006	✧ Administration's paper : "Progress of the implementation of digital terrestrial television broadcasting in Hong Kong"	CB(1)1950/05-06(01)
	✧ Submission from deputations	(please refer to the agenda)
	✧ Minutes of meeting	CB(1)178/06-07
Meeting of ITB Panel on 6 February 2007	✧ Administration's paper : "Consultation on Digital Broadcasting: Mobile TV and Related Issues"	CB(1)853/06-07(05)
	✧ Minutes of meeting	CB(1)1297/06-07