



LICENSING FRAMEWORK FOR THIRD GENERATION MOBILE SERVICES

Response from British Telecommunications plc

- 1 This paper is submitted in response to OFTA's invitation to comment on its industry consultation paper "Licensing Framework for Third Generation Mobile Services", dated 21 March 2000. The submission outlines BT's views on the specific issues raised by OFTA relating to the licensing of third generation mobile networks and services. Also included are specific recommendations for OFTA's consideration in the formulation of its licensing framework for third generation mobile services in Hong Kong.
- 2 The mobile communication market in Hong Kong has been growing steadily since the first analogue phone service was available in the mid-1980's. In less than 20 years, the mobile subscriber base has grown to over 3.8 million. Mobile penetration in Hong Kong is at 58%, one of the highest in the world, and is higher than fixed line penetration. There are currently 6 mobile operators running 11 networks.
- 3 With the introduction of 6 Personal Communication Services (PCS) licences in 1996, the mobile communication market has undergone a significant change. The cost of mobile communication services and handsets have dropped dramatically, to a level that most of the general public can afford a mobile phone. Due to vigorous competition, the mobile market has undergone consolidation where some of the original PCS licensees have merged with the then existing mobile operators. The mobile market has reached a level of maturity where some operators have started developing different branding/packages to suit different market segments using the same mobile network.
- 4 Competition has further intensified from April 1999 with the introduction of Mobile Number Portability (MNP) - the focus of mobile operators of late has been to fight for customers from one another's customer base. Handset subsidies and ultra-low monthly subscription fees are the marketing tools used to attract existing customers and certain operators have suffered significantly in this price war.
- 5 The Hong Kong mobile market is regarded as one of the most competitive in the world. There is little room for the existing operators to further reduce the service tariff to generate new customers. The market in Hong Kong can therefore be characterised as a mature one where market forces are fully at play. The



development of value-added services and the migration to 3G services will be an important avenue for existing operators to compete in the next decade. Due to the increasing demand for data services at larger and larger bandwidths, 3G networks present themselves as the natural upgrade of 2G networks to cope with the growing broadband requirement.

- 6 As mentioned above, the market in Hong Kong can be characterised as a mature one where competition is vibrant and market forces are fully at play. There are currently 6 mobile operators in Hong Kong running 11 networks formed from the consolidation of the market caused by too much and unsustainable competition. In the light of the current state of the market, competition level, range of services and extremely competitive prices, it is questionable whether there is any need for yet more new licensees.
- 7 Further, OFTA has carried out several rounds of licensing during which cellular and PCS licences were awarded. Parties interested in the Hong Kong market therefore have had ample opportunity to participate and continue to do so through opportunities to take stakes in any of the existing operators. It would be safe to say therefore that any operator that had an interest in participating in a mobile business in Hong Kong would already be doing so (or has fallen by the wayside following consolidation). Hence, any operator who wishes to only participate now and did not before should show a similar level of commitment as that shown by those remaining committed to Hong Kong and still in the market following consolidation.
- 8 Furthermore, it is envisaged that the applications service providers will be as important as the operators layer, in introducing innovations into the market. A new player will be better and more quickly able to realize the potential of innovative thinking through entry into this layer of the market.
- 9 BT understands that OFTA may wish to licence a new entrant, in spite of the above, in order to introduce further service development and innovative operator offerings. In the already highly competitive environment of Hong Kong, innovative service development is an essential part of the plans of existing operators. A new operator would not have any experience in operating in the Hong Kong environment and it would not serve any purpose to license many. We suggest therefore, that if a new entrant were to be introduced, there be only one such licence. One new entrant, properly chosen, would be sufficient to serve the purpose of injecting new blood, innovative thinking and service development into the market.



- 10 Existing 2G operators have already begun to introduce innovative 2.5G services supported by GPRS and WAP technologies. As take-up for these services increases, the existing 2G networks will get increasingly congested. While the existing mobile operators can expect to implement these technologies to the fullest extent possible, these will still fall short of the full mobile multimedia capabilities of 3G technologies. With the growing demand for data services and the increasing affordability of mobile terminals (including 3G terminals when they are launched), the lack of access to 3G spectrum by existing operators could affect their ability to compete effectively with new 3G operators. Customers could find that their existing service providers suddenly become unable to provide the full range of services that they require.
- 11 Over the years, these existing operators in Hong Kong have made significant investments in infrastructure. As services evolve and technology develops to meet the growing demand for new and improved services, operators need to constantly upgrade their networks and systems to keep pace with these changes in order to meet subscriber demand. Operators of existing 2G networks would naturally need to upgrade their networks to 3G technology in order to meet the growing needs of their subscribers. Adopting a technology neutral approach, these operators should be left to decide for themselves on the choice of technology. Depriving these operators from a viable migration path to 3G spectrum would limit their technology choices. This would significantly penalise these operators and signal to investors that their investments in Hong Kong would not be safeguarded. On the contrary, it would appear that early entrants in the market, although having shown greater confidence and commitment to it, are now being penalised. Access to 3G spectrum for existing operators would provide opportunity for continuity and to continue to service customers. It is therefore important that spectrum is reserved for existing operators to provide them continuity and a means of competing effectively in the future.
- 12 BT entirely supports the view expressed by OFTA in the consultation paper that the existing mobile operators have established customers and a degree of expertise and competence in serving the Hong Kong market and that to deny them access to new technologies could prove punitive in the sense that they could be constrained to operate an obsolete technology well before the expiry of their licences. In an ideal environment therefore, each 2G operator should be allowed to build out a 3G network as a natural evolution from its 2G network.
- 13 BT supports the OFTA decision to set aside the full 2 x 60 MHz paired spectrum and between 25 MHz to 29 MHz unpaired spectrum for terrestrial 3G mobile services in Hong Kong. As mentioned earlier, BT views radio spectrum as a supporting



technical resource for network operation. As a principle therefore, all operators should be assigned the same amount of spectrum as they will all have similar demands for network deployment and rollout. This will create a level playing field for all mobile operators offering 3G services and consumers will be able to choose the best service provider based entirely on his service offering.

- 14 BT supports the view that a spectrum allocation of 15 MHz per operator is preferable but not essential to rollout a 3G network with sufficient capability to implement the broadband multimedia services that the IMT2000 vision entails. Networks operating on lesser spectrum require more complex planning to provide the range, scope and quality of services that could be provided and are require longer lead times to cope with sudden changes in demand. It is possible however for a network to be operated on 10 MHz of paired spectrum with an unpaired supplement of 5 MHz with some impact on network design and cost. Out of the required 15 MHz therefore, 5 MHz could be allocated from the unpaired band. Therefore, while operators will only have access to 10 MHz of paired spectrum, they will be able to use the unpaired band to alleviate congestion and increase spectrum efficiency for asymmetric data services.
- 15 BT notes that OFTA has expressed the intention for holding off on assigning the unpaired portion of the band for the time being. In view of the severe shortage of this available resource, we suggest that the unpaired band be assigned at this stage as it will help operators plan the deployment of their networks with the full knowledge of and access to their spectrum allocation. Furthermore, while standardization of the unpaired band may be somewhat behind that of the paired, the speed of technological development and demand for more spectrum will drive this very quickly. It is worthwhile noting that almost all regulatory authorities in Europe (where 3G licensing is slightly ahead of Asia) are incorporating unpaired band assignments in their licences. Also, where authorities have awarded licences with 10 MHz paired spectrum (for example, in the United Kingdom), it has been supplemented with a 5 MHz unpaired spectrum allocation as well.
- 16 It is envisaged that 3G networks will operate on a multi-level hierarchy that will be offered as part of an integrated service package, combining fixed and mobile elements tailored to the individual or corporate customer's needs. However, network investments will be large and resource constraints high and as such only a limited number of players can be expected to create a viable business.
- 17 Based on the spectrum allocation per operator and the state of the market, we are of the view that for long term sustainable competition, there should be four 3G operators chosen out of the current six. BT strongly supports OFTA's stated



preference for allocating 3G spectrum to these four existing operators by evaluation based on merit. Auctions do not necessarily select the operator most suitable for rolling out a mobile network with innovative service offerings or even assess the ability of successful bidders to meet the obligations of the licence. In addition, speculation in the scope of 3G services would serve to increase bids to unrealistically high levels adding an unnecessary level of cost to 3G service provision. This will eventually find its way into end user pricing and lower service quality which can only be to the detriment of the consumer in the long run. Experience in other countries, in particular the USA, has shown that success in auctions does not necessarily reflect the ability of the successful applicant to follow through with their commitments to pay.

- 18 The government's objective of introducing and facilitating the provision of new technologies offering innovative services at the lowest cost and value for money to the consumer is the right one. The mechanism adopted by OFTA of allocating limited spectrum to licensees by way of evaluation of the merits of applications is a well-established one, and a sound method of selecting operators with the right technical and commercial capabilities based on their proven experience, vision and what they can offer. BT therefore recommends that OFTA continues with its well-established and time tested method of selecting licensees by evaluation based on merit. This way, applicants would be able to focus their attention on developing plans for services and products and the successful applicant should be selected based on having the best technical and business plans.
- 19 This will encourage the creation of a level playing field mentioned in paragraph 11 before. As a result, we do not believe that any group of people, whether incumbent or new entrant, should enjoy any preference for 3G spectrum as this would amount of discrimination and unequal treatment. Indeed, any new entrant should first satisfy the licensing criteria that all mobile incumbents had to satisfy in the past, before they qualified to apply for 3G spectrum. This will mean that they do not get to cream skim the mobile market by offering only the 3G services that are highly profitable and attractive to consumers.
- 20 We have suggested earlier that new entrants (if any) be licensed through a separate competitive process from the one used for existing mobile operators. Existing mobile operators have in the past, bid and won the right to operate mobile communication services. The need to access 3G spectrum for the natural evolution of their 2G networks has been described above. As there are more existing operators (six) than the amount of 3G spectrum available (for four operators), we have recommended that the 4 successful operators from the existing 6 be selected by evaluation based



on the merits of their business plans and service commitments. These operators have invested heavily in their networks, rolled out their networks and services and have proven themselves in the Hong Kong market. The evaluation criteria therefore should assess their vision and business plans for the rollout and provision of 3G services. As existing operators already have existing investments and are committed to the market, they will already have the motivation to ensure that they deploy their networks to the fullest to reap the returns on their investment. A suitable performance bond will further seal this commitment.

- 21 As applicants for a new mobile licence have no proven experience in Hong Kong, they should be assessed under a separate competitive exercise which include, in addition to the assessment of vision and business strategy, also criteria for experience in operating mobile communication networks in other parts of the world, particularly in highly competitive markets. In addition, such applicants should also be assessed on the level of investment they intend to commit to their 3G network deployment and service strategy and the performance bonds they post for their commitments. This should be considered separately from the incumbents' application for 3G spectrum in order to create a level playing field.
- 22 OFTA has raised the issue of 2G operators being permitted to use any IMT2000 spectrum in their assigned 2G bands. It is envisaged that 2G and 3G networks will co-exist for quite some time and that migration of subscribers away from 2G networks will take many years. For as long as there continues to be a large resident base of subscribers on 2G networks, the ability to use 2G spectrum for any IMT2000 standards and services will be limited, if at all possible. Furthermore, BT views that an essential element of a technology neutrality policy is that operators be allowed to use any technology in their assigned spectrum so long as the standards are compatible from a consumers point of view. By virtue of this, it is BT's view that 2G operators should be allowed to implement any IMT2000 standards in their 2G spectrum, when they are able to, as a result of the availability of technology and 2G spectrum for re-farming. BT therefore supports OFTA's suggestion on the above.
- 23 BT does not view 3G to 2G inter-network roaming as a significant requirement. We believe that there is no need to make it mandatory that 3G operators be allowed to roam onto 2G networks. This is not to say that such roaming arrangements should not be permitted. On the contrary, operators should be free to enter into commercial negotiations if they so desire. The new 3G operator may therefore establish roaming arrangements with any 2G operator commercially, if it so requires. If the prospective 3G operators feel that they will not be able to achieve the required coverage at the start of their operations, they should factor in the requirement for commercial



negotiations on roaming onto 2G networks. The same considerations apply for 2G operators wishing to roam onto 3G networks. Such arrangements should be commercially negotiated. This is because Hong Kong has a comparatively small territory in relation to larger countries where inter-system roaming of this type is required to assist new entrants due to difficulties in network rollout. Mobile networks in Hong Kong can be rolled out quite quickly and there is no over-riding necessity for mandating such a requirement. Allowing such roaming would also dilute the incentive of the new entrant to invest in the new technology and to rollout and improve its network coverage, which is the basis on which it won its licence. On the contrary, the very purpose of introducing a new entrant is to inject further innovation into the market. Allowing a new entrant to roam onto 2G networks would conflict with this policy objective.

- 24 Such investments in 3G networks are not expected to be insignificant. This is unlike investments in fixed networks which were made before competition was introduced and therefore it is equitable to open networks up to all competitors. As investments in 3G networks will be new, it would be inefficient for network planners to have to provide an uncertain level of spare capacity on their networks in order to cater simply to others buying from him for the purpose of offering services. As such, it is felt that each network service provider should have its own network. Where application and value added service providers want to offer services, it is envisaged that they would wholesale to network service providers as there would otherwise be no incentive to operate networks or offer network services. BT therefore is of the view that network operation should not be separated from service provision in an already highly competitive market
- 25 BT also supports OFTA's intention to adopt a 3G band plan for Hong Kong that is in compliance with the IMT2000 allocation. Most European and Asian countries have indicated an intention to adopt the ITU IMT2000 band plan. This will go a long way in ensuring standards compatibility from the consumers' point of view and will be particularly critical in ensuring subscribers in Hong Kong are able to enjoy roaming services when they travel to most countries overseas and vice versa. Standardization of band plans will also ensure that terminal prices are kept low and make them more affordable to consumers.
- 26 OFTA has raised the issue of whether the framework for the existing mobile telephone services should apply to 3G. BT is of the view that 3G networks and services generally fall in the same category as mobile networks and services, with some changes. Therefore, the same overall framework should apply. However, the services now provided by mobile networks are sufficiently important to be warranted



basic services. As such, it is timely to review the status of mobile operators in the Telecom Ordinance and relevant subsidiary legislation and regulations.

- 27 To make the mobile market more robust, the regulatory framework dealing with competition should be strengthened. For example, all licensees should operate independently of one another and any relationship through subsidiaries and complex corporate structures should be permitted only where necessary. This is to ensure that consumers reap the full benefits of innovation and pricing brought about by each independent operator and complements any policy objective of introducing further competition into the market through the licensing of additional operators.
- 28 BT notes also that there is currently no framework for interconnection in relation to broadband mobile services. We suggest that a broadband interconnection framework be introduced that would share the same principles as that for local wireless FTNS.

The above recommendations outline BT's perspective on the various regulatory issues relating to third generation networks and services in Hong Kong. We respectfully submit these for OFTA's consideration.

BT has invested significantly in the Hong Kong market and remains committed to it. We are very optimistic about the potential role that 3G networks will play in providing high speed interactive data services and we thank OFTA for the opportunity to comment on the licensing framework for third generation mobile services in Hong Kong. We would be happy and eager to participate in any future discussions about the Hong Kong telecommunications market.