# FINAL DECISION
# OF THE COMMUNICATIONS AUTHORITY

## APPLICATION FOR PRIOR CONSENT UNDER SECTION 7P OF THE TELECOMMUNICATIONS ORDINANCE IN RESPECT OF THE PROPOSED ACQUISITION OF CSL NEW WORLD MOBILITY LIMITED BY HKT LIMITED

**April 2014**

## INTRODUCTION

The Communications Authority, having regard to the Telecommunications Ordinance (Cap 106 of the Laws of Hong Kong), hereby sets out its decision on the application by HKT Limited, the holding company of Hong Kong Telecommunications (HKT) Limited, a carrier licensee, for prior consent under section 7P of the Telecommunications Ordinance to its proposed acquisition of CSL New World Mobility Limited, the holding company of CSL Limited, also a carrier licensee.

## GLOSSARY

2. In the Decision, unless the context otherwise requires,

"**21 ViaNet**" means 21 ViaNet Group Limited;

**"2G"** means second generation;

**"3G"** means third generation;

"**3G Spectrum**" means spectrum in the 1.9 – 2.2 GHz band;

"**4G**" means fourth generation;

"**Application**" means the application submitted by HKT Limited and described in paragraph 3 of the Decision;[1]

"**BTS**" means base transceiver station;

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[1] See Annex A to the Consultation Paper: http://www.coms-auth.hk/filemanager/en/content_880/cp20131223_e.pdf.

"**CA**" means the Communications Authority;

**"CMHK"** means China Mobile Hong Kong Company Limited;

**"Consultation Paper"** means the consultation paper entitled "*Application for Prior Consent under Section 7P of the Telecommunications Ordinance in Respect of the Proposed Acquisition of CSL New World Mobility Limited by HKT Limited*" issued by the CA on 23 December 2013;[2]

**"Consultancy Report"** means the report that the CA has commissioned London Economics to prepare in relation to the Proposed Transaction;

**"Consultant"** means the team of consultants engaged by London Economics to prepare the Consultancy Report;

"**CSL**" means CSL Limited;

"**CSLNWM**" means CSL New World Mobility Limited;

"**Decision**" means the CA's decision pursuant to section 7P(7)(b)(ii) of the TO, as set out in this document;

"**Direction**" means the specified actions set out in **Annex A** to this document, which the CA considers necessary to eliminate or avoid any effect of SLC that is identified in the Decision and which the CA directs HKT and CSL to take in order to enable the CA to grant consent pursuant to section 7P(7)(b)(ii) of the TO;

"**ETS**" means external telecommunications services;

"**FNO**" means fixed network operator;

"**Genius Brand**" means Genius Brand Limited;

"**GUPPI**" means gross upward pricing pressure index;

"**HGC**" means Hutchison Global Communications Limited;

2 http://www.coms-auth hk/filemanager/en/content_880/cp20131223_e.pdf.

"**HKBN**" means Hong Kong Broadband Network Limited;

"**HKT**" means Hong Kong Telecommunications (HKT) Limited;

**"HTCL"** means Hutchison Telephone Company Limited;

"**LAC**" means local access charge;

"**LTE**" means Long Term Evolution;

"**M&A Guidelines**" means "*The [Communications Authority] Guidelines on Mergers and Acquisitions in Hong Kong Telecommunications Markets*" issued on 3 May 2004;[3]

"**Merged Entity**" means CSL and HKT combined after the completion of the Proposed Transaction;

"**MNO**" means mobile network operator;

"**MVNO**" means mobile virtual network operator;

"**New World**" means New World Development Company Limited;

"**OFCA**" means the Office of the Communications Authority;

"**PCCW-HKT**" means PCCW-HKT Telephone Limited;

"**Proposed Transaction**" means the proposed transaction referred to in paragraph 10 of the Decision;

"**Public Benefit Test**" means the test referred to in paragraph 4 of the Decision;

"**RAN**" means radio access network;

"**SBO**" means services-based operator;

"**SLC**" means substantially lessening competition;

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[3] http://tel_archives.ofca.gov.hk/en/report-paper-guide/guidance-notes/gn_20040503.pdf.

"**SLC Test**" means the test referred to in paragraph 4 of the Decision;

**"SMT"** means SmarTone Mobile Communications Limited;

"**TA**" means the Telecommunications Authority;

"**TD-LTE**" means Time Division Long Term Evolution;

"**Telstra**" means Telstra Corporation Limited;

"**TO**" means the Telecommunications Ordinance (Cap. 106 of the Laws of Hong Kong); and

"**UCL**" means unified carrier licence.

## PROCESSING OF THE APPLICATION FOR PRIOR CONSENT UNDER SECTION 7P(6) OF THE TO

3. On 4 October 2013, the CA received an application by HKT, a carrier licensee, seeking the CA's prior consent to its acquisition of CSL, another carrier licensee. Subsequently, HKT Limited, the parent company of HKT, submitted a revised application clarifying that the acquisition will be of CSLNWM, the parent company of CSL, by HKT Limited. CSLNWM owns 100% of the shares of CSL, whereas HKT Limited owns 100% of the shares of HKT. As the Proposed Transaction would involve the acquisition of CSL, a carrier licensee, by HKT Limited, it constitutes "*a change in relation to a carrier licensee*" under section 7P(16) of the TO, and as such, section 7P of the TO is applicable. HKT Limited seeks the CA's prior consent to the Proposed Transaction under section 7P(6) of the TO.

4. Where the CA receives an application for prior consent under section 7P(6) of the TO, pursuant to section 7P(7), it has to consider whether the proposed change would have, or be likely to have, the effect of SLC in a telecommunications market (the "**SLC Test**") and, if there would be such an effect, whether the proposed change would have, or be likely to have, a benefit to the public that would outweigh any detriment to the public that would be, or would likely to be, constituted by any such effect of SLC (the "**Public Benefit Test**").

5. Where the CA forms an opinion that the proposed change would not have, or would not be likely to have, the effect of SLC in a telecommunications market, the CA must give consent; otherwise the CA may decide to refuse to give consent, or give consent subject to the direction that the carrier licensee concerned takes such action as the CA considers necessary to eliminate or avoid the effect of SLC in connection with the proposed change. However, the CA may give consent without issuing such a direction if it is satisfied that the proposed change would have, or be likely to have, a benefit to the public that would outweigh any detriment to the public that would be, or would likely to be, constituted by any effect of SLC in a telecommunications market. Before forming any opinion, making any decision or issuing any direction under section 7P(7), the CA is obliged under section 7P(8) to give all carrier licensees and any interested person a reasonable opportunity to make representations to the CA, and to consider the representations received.

6. On 23 December 2013, the CA issued the Consultation Paper pursuant to section 7P(8) of the TO inviting representations from all carrier licensees and any interested person on the Proposed Transaction. The consultation closed on 4 February 2014 with 27 representations received. The representations were posted on the CA's website.[4] A list of parties who have submitted representations is given in **Annex B** to the Decision.

7. Subsequently, on 21 February 2014, a submission was made to OFCA by RBB Economics at the joint request of HKT Limited, Telstra and New World addressing issues raised by the responses to the Consultation Paper. On 24 February 2014, HKT Limited submitted a further response to the comments filed in response to the Consultation Paper. Additionally, on 28 February 2014, HKT Limited submitted a separate letter in response to SMT's representations raising concerns about the Proposed Transaction.[5]

8. OFCA also conducted its own enquiry by approaching HKT Limited and the MNOs to obtain relevant data and ascertain relevant facts for conducting the necessary assessment under section 7P. From October 2013 to January 2014, OFCA sent requests for information to HKT Limited to obtain data and ascertain facts relevant to its assessment under section 7P of the TO. The responses of HKT Limited to OFCA's

[4] The representations were posted on the CA's website: http://www.coms-auth.hk/en/policies_regulations/consultations/completed/index_id_251.html.

[5] Further submissions from various third parties were received and considered by the CA after the consultation had closed in response to some of those made during the consultation. These did not raise any additional points to affect the views taken by the CA.

requests for information and those mentioned in paragraph 7 have been considered as additional information provided by HKT Limited in relation to the Application.

9. In addition, the CA appointed the Consultant to prepare the Consultancy Report. In arriving at its decision, together with its own analysis of the Proposed Transaction, the CA has taken into account the representations, submissions and analyses received and the detailed economic analysis conducted by the Consultant on the likely effects the Proposed Transaction would have on competition in the relevant telecommunications markets.

## THE PROPOSED TRANSACTION

10. According to the Application, the Proposed Transaction will involve the acquisition of all the shares of CSLNWM, the holding company of CSL, by HKT Limited, the holding company of HKT. CSL's major assets include its UCL No. 008 and all the spectrum assigned to it thereunder;[6] as well as such other relevant assets as network assets, non-network assets, intellectual property rights, customer contracts, shop leases, goodwill, and certain affiliated (non-licensed) entities. Subject to the CA's consent, and according to the post-transaction group structure submitted by HKT Limited, on completion of the Proposed Transaction, CSLNWM and CSL will be placed under HKT Limited.

11. While HKT Limited does not consider that the Proposed Transaction raises any significant issues under section 7P, it submits that it is nevertheless prepared to make the following commitments if so required by the CA to address the effect or likely effect of SLC in a telecommunications market :

(a) HKT would continue to provide wholesale services now provided by CSL and HKT (e.g. MVNO, resale and network sharing arrangements);

(b) HKT and CSL commit that each would not to seek to renew the assignment of 2 x 5 MHz of 3G spectrum respectively in the 1930.2 – 1935.1 MHz paired with 2120.2 – 2125.1 MHz, and 1935.1 – 1940.0 MHz paired with 2125.1 – 2130 MHz,

[6] UCL No. 008 is granted to CSL for a term of 15 years from 21 May 2013. The assignment of spectrum in various bands for the provision of mobile telecommunications services under UCL No. 008 will expire between October 2016 and May 2028.

upon expiry of the existing assignment in October 2016. HKT further commits that it would not seek to renew the assignment of/acquire 2 x 5 MHz of 3G spectrum in the 1920.3 – 1925.3 MHz paired with 2110.3 – 2115.3 MHz bands; and HKT and CSL commit that they would not participate in the auction for the 3G Spectrum; and

(c) to fulfil all of CSL's licence and customer contract obligations.

## THE PARTIES

12. CSL, the carrier licensee to be acquired, is one of five MNOs in the telecommunications sector in Hong Kong, providing a range of mobile services at both the wholesale and retail levels. It is currently owned by CSLNWM, which is ultimately owned by Telstra (76.4%) and New World (23.6%).

13. HKT Limited, the acquiring party, is approximately 63% owned by PCCW Limited. Both HKT Limited and PCCW Limited are listed on the Hong Kong Stock Exchange. HKT is a 100% owned subsidiary of HKT Limited. HKT, together with its associated companies, operates both fixed and mobile networks in Hong Kong, providing a range of fixed and mobile services at both the wholesale and retail levels.

## COMPETITIVE ASSESSMENT OF WHETHER THERE IS SLC EFFECT

14. In assessing whether the Proposed Transaction would have or would be likely to have the effect of SLC in a telecommunications market, the CA has regard to the M&A Guidelines which state that, "*the [CA] will interpret a substantial lessening of competition in terms of the* ***creation or enhancement of market power***".[7] The M&A Guidelines go on to say that, "*[m]arket power manifests itself when there is a firm (or a group of firms in coordination) that is not constrained by other firms in its (or their)* ***ability to increase its price above competitive levels for a significant period of time (or to reduce output or quality)***".[8] Accordingly, "*[i]f there is a reasonable likelihood that* ***prices in the relevant market will be maintained at a significantly greater level*** *than*

[7] Paragraph 4.12.
[8] Paragraph 4.13.

*would be the case in the absence of the merger, or where* ***competitive outcomes would be otherwise distorted****, the [CA] will consider that the merger substantially lessens competition in terms of section 7P of the Ordinance*".[9] [Emphasis added]

**The Relevant Markets**

15. Section 7P of the TO requires the CA to form an opinion on whether a proposed change would have or is likely to have the effect of SLC "in a telecommunications market".[10]

16. In determining the relevant market(s), the CA has regard to the M&A Guidelines which set out the CA's approach to market definition. The CA generally follows the principle that it should begin its competition assessment (but not necessarily conclude) using a market definition that most readily highlights potential competition concerns.

17. The CA has considered the following relevant markets in its analysis of the Proposed Transaction :

(a) Retail mobile telecommunications services;
(b) Wholesale access to mobile networks;
(c) Backhaul services;
(d) Interconnection services;
(e) International roaming services; and
(f) Other services.

***(A) Retail Mobile Telecommunications Services***

18. HKT and CSL are MNOs active in retail mobile telecommunications and compete to provide mobile voice and data telecommunications services to customers in Hong Kong. The former TA previously considered that the relevant starting point was the retail market for mobile voice and data telecommunications services (which includes supply of such services by MNOs and MVNOs in Hong Kong).[11]

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9 Paragraph 4.19.

10 A "telecommunications market" is defined in the TO as meaning "any market for the provision or acquisition of telecommunications networks, telecommunications systems, telecommunications installations, or customer equipment or services."

11 Decision of the former TA granting consent under the TO to joint ownership of Hong Kong CSL Limited and New World PCS Limited of Hong Kong dated 22 March 2006.

19. In the present case, HKT Limited submits that the relevant market should be the Hong Kong market for the supply of mobile (voice and data) telecommunications services. The CA received representations with differing views on the relevant market for the purpose of analysis of the Proposed Transaction.[12]

20. In the context of this case, the fact that the Proposed Transaction involves the merger of two MNOs would suggest that competition in the market for the supply of retail mobile telecommunications services will clearly be affected. It is conceptually feasible that several segments within this market might be carved out for further competition assessment. Within the retail mobile telecommunications services market for example, there might be a separate market segment for pre-paid and post-paid customers; for business and private individual customers; for voice and data services; and/or different spectrum ranges (2G, 3G and 4G (LTE)). From a supply-side perspective, any MNO participants in the retail mobile telecommunications services market would have the ability to provide services in relation to any of the segments within the market. For example, in the case of substitution from 2G to 3G/4G services, the major suppliers in Hong Kong are able to offer all of 2G, 3G and 4G services and can rapidly and at relatively low cost move their customers from 2G to 3G/4G plans.

21. After careful consideration, the CA is of the view that there is no need to conclude whether the segments within the retail mobile telecommunications services market form separate markets in this case, as the Proposed Transaction will have the effect or likely effect of SLC in the broader market for the supply of retail mobile telecommunications services.[13] This view of the market is consistent with the former TA's decisions[14] and decisions of the European Commission.[15]

### *(B) Wholesale Access to Mobile Networks*

22. Some MNOs provide wholesale access services for MVNOs to enable the latter to offer services in the retail mobile telecommunications services market. In this wholesale market, MNOs who have their own networks are the suppliers, while MVNOs are the

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[12] These representations include, *inter alia*, the respective responses of SMT, CMHK and Wharf T&T Limited dated 4 February 2014 to the Consultation Paper.

[13] See Chapter 2 of the Consultancy Report.

[14] Decision of the former TA granting consent under the TO to joint ownership of Hong Kong CSL Limited and New World PCS Limited of Hong Kong dated 22 March 2006.

[15] See, for example, COMP/M.3916 – T-Mobile Austria/tele.ring; COMP/M.5650 – T-Mobile/Orange.

customers who require access to MNOs' networks. Having regard to the supply-side and demand-side characteristics of the supply by MNOs of access to their networks to MVNOs, and consistent with international precedent, including relevant decisions of the European Commission,[16] the CA takes the view that this wholesale market constitutes a separate market upstream of the retail mobile telecommunications services market.

23. For the purposes of its assessment, the CA has further considered the following relevant wholesale markets: provision of backhaul services; wholesale supply of interconnection services; the supply of international roaming services; and other related services (such as fixed line telephony services and access to public Wi-Fi data services). The precise market definition can be left open on the basis that the CA has not found that the Proposed Transaction would, or would be likely to, have the effect of SLC in any of these markets.

### *(C) Backhaul Services*

24. MNOs need backhaul services for the connection of their BTS to the core network. Such backhaul services are provided by the FNOs. Given that HKT and PCCW-HKT, together, are the incumbent FNO with a ubiquitous fixed network,[17] one of the likely relevant markets that needs to be examined is the wholesale market for backhaul services.

### *(D) Interconnection Services*

25. There is also likely to be a separate wholesale interconnection market wherein MNOs acquire and provide access service for interconnection with other MNOs and the FNOs for the delivery and receipt of voice calls and other services. In addition, consideration will also be given to the interconnection of MNOs and FNOs with ETS providers for the origination and termination of ETS calls.

### *(E) International Roaming Services*

26. International roaming services enable local mobile customers to use their mobile handsets and SIM cards to have access to mobile services overseas (outbound roaming) or enable visitors to Hong Kong to have access to mobile services locally (inbound roaming).

[16] See, for example, COMP/M.5650 - T-Mobile/Orange; COMP/M.4947 - Vodafone / Tele2 Italy / Tele2 Spain.

[17] PCCW-HKT and HKT jointly hold UCL No 025 for the provision of fixed telecommunications network services.

Given that MNOs negotiate with one another wholesale agreements concerning roaming services, there is a wholesale market for both inbound and outbound roaming.

### *(F) Other Related Services*

27. Given that HKT and PCCW-HKT, together, are the incumbent FNO, the CA needs to consider the likelihood of the HKT group leveraging its position in the fixed market onto the mobile market (and *vice versa*), particularly in relation to the provision of fixed-mobile bundles, and access to its Wi-Fi network by MNOs. In this regard, the CA has considered the likely effects of the Proposed Transaction on the market for fixed telecommunications network services (to analyse potential bundling with retail mobile telecommunications services) and the market for access to public Wi-Fi data services (as a substitute for mobile data telecommunications services).

## Assessment of SLC Effect in the Relevant Markets as Identified

28. Application of the SLC test entails a comparison of the level of competition that is likely to exist in a relevant market without the Proposed Transaction (i.e. the pre-merger situation) with the likely level of competition in the relevant market if the Proposed Transaction proceeds (i.e. the post-merger situation) – a counterfactual assessment. Such a "with and without" approach usually involves an assessment of alternative competition scenarios. Relevant considerations include whether, and if so to what extent, the Proposed Transaction might result in higher prices, lower levels of service supply, slower speed of service innovation, as well as reductions in the level of service quality.

29. Applying such a "with and without" approach in assessing the effect of SLC in the relevant markets, the CA first examines each of the relevant markets to see whether any competition concerns in terms of unilateral effects[18], coordinated effects[19] or other concerns may arise in these markets as a result of the Proposed Transaction, and the CA then assesses whether there are countervailing factors or efficiencies that can counter the competition concerns, if any, as identified for these markets, in order to reach a conclusion on whether the Proposed Transaction would result or would be likely to result in the effect of SLC.

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[18] See paragraph 32.
[19] See paragraph 52.

### *(A) Retail Mobile Telecommunications Services*

30. At present, five MNOs compete in the market for retail mobile telecommunications services in Hong Kong, namely HKT, CSL, HTCL, SMT and CMHK. The CA notes HKT Limited's references in the Application to 21 ViaNet's acquisition of 30 MHz of TD-LTE spectrum at 2.3 GHz band.[20] Based on publicly available information regarding 21 ViaNet's business profile, the CA considers it very unlikely that 21 ViaNet would enter the retail mobile telecommunications services market in the short or medium term. Therefore, 21 ViaNet has been excluded from the CA's assessment of the Proposed Transaction.

31. There are also seven active MVNOs,[21] as well as a number of resellers. Genius Brand, a joint venture on a 50/50 share basis between the HKT group and Hutchison telecom group, also holds a UCL for mobile services, but it currently only offers 4G services on a wholesale basis to HKT and HTCL.

<u>Unilateral effects</u>

32. A merger may lessen competition through unilateral, or non-coordinated, effects, by the creation of market power. Non-coordinated effects "*may be seen where the merger makes it profitable for the merged firm to raise prices (or reduce quality or output) as a result of the loss of competition between the merged parties*".[22]

33. The M&A Guidelines refer to two "safe harbour" measures: (a) where the post-merger combined market share in the relevant market of the four (or fewer) largest firms (CR4) is less than 75% and the merged firm has a market share of less than 40%; and (b) based on a Herfindahl-Hirschman Index ("**HHI**"): markets of a post-merger HHI of less than 1,000; an increment in HHI of less than 100 where the post-merger HHI of the market is between 1,000 and 1,800; or an increment in HHI of less than 50 where the post-merger HHI of the market is more than 1,800, an SLC is regarded as unlikely and there will unlikely be a need on the part of the CA to carry out a detailed investigation to intervene.

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[20] 21 ViaNet holds a UCL enabling it to provide fixed services by making use of 30 MHz of unpaired spectrum in the 2.3GHz band assigned to it through auction. At present, 21 ViaNet is not authorised to provide mobile services under its UCL.

[21] China Motion Telecom (HK) Limited, China Unicom (Hong Kong) Operations Limited, CITIC Telecom International Limited, China-Hong Kong Telecom Limited, Telekomunikasi Indonesia International (HongKong) Limited, Truphone (Hong Kong) Limited and New World Mobility Limited, which had reported the number of subscribers of the retail mobile services, are included.

[22] Paragraph 4.23 of the M&A Guidelines.

34. Paragraph 2.13 of the M&A Guidelines states :

> *"While the [CA] is unlikely to further assess any mergers which fall below these thresholds, [it] does not categorically rule out intervention… In any event, where the post-merger market share of the parties to the transaction is 40% or more, it is likely that the [CA] will wish to make a detailed investigation of the transaction." [emphasis added].*

35. The CA notes HKT Limited's submission that the underlined sentence of the above quote should be interpreted to mean that a merger involving a market share of below 40% would not likely raise competition issues and would not likely be subject to a detailed investigation. However, the CA notes that the M&A Guidelines do not set out a legal safe harbour in respect of transactions involving a market share of less than 40% and each transaction should be assessed on the facts and merits of the individual case, as discussed below.

36. In the present case, HKT Limited submits that, post-merger, the combined share of HKT and CSL will be 31% (by subscribers), 29% (by revenue) and 38.3% (by spectrum).

37. The CA has engaged the Consultant to work out the market shares in this market using similar parameters but also across different segments based on data OFCA obtained from MNOs and other public data available. The Consultant's findings are set out below:

**Table 1: Market share by subscribers[23] (September 2013)**

| **Operator** | **% of all subscribers** | **% of 3G/4G subscribers** |
|---|---|---|
| CSL[24] | [redacted] | [redacted] |
| HKT[25] | [redacted] | [redacted] |
| **Merged Entity** | **37%** | **46%** |
| CMHK | [redacted] | [redacted] |
| HTCL | [redacted] | [redacted] |
| SMT | [redacted] | [redacted] |
| MVNOs[26] | 7% | [redacted] |

23 The market share refers to share of total subscribers of MNOs and MVNOs in Hong Kong.
24 Including CSL's 60% interest in New World Mobility Limited, an MVNO in Hong Kong.
25 According to the reports of HKT to OFCA, 100% of HKT's subscribers are in the 3G/4G category.
26 Including 40% of subscribers of New World Mobility Limited as an MVNO.

### Table 2: Market share of MNOs by revenue (2012)

| Operator | Voice revenue | Non-voice revenue | Total retail revenue minus handsets | Total retail revenue |
|---|---|---|---|---|
| CSL | [redacted] | | | |
| HKT | | | | |
| **Merged Entity** | **33%** | **28%** | **36%** | **26%** |
| CMHK | [redacted] | | | |
| HTCL | | | | |
| SMT | | | | |

### Table 3.1: Spectrum ownership of MNOs (current)

| Operator | Effective spectrum[27] holding (MHz) in Frequency Band | | | | | |
|---|---|---|---|---|---|---|
| | **900 MHz** | **1800 MHz** | **2.1 GHz** | **2.3 GHz** | **2.6 GHz** | **Total (MHz)** |
| CSL | 16.6 | 46.4 | 29.6 | -- | 40 | 132.6 |
| HKT[28] | -- | 26.4 | 29.6 | -- | 20 | 76.0 |
| **Merged Entity** | **16.6** | **72.8** | **59.2** | **--** | **60.0** | **208.6** |
| CMHK | --- | 26.4 | -- | 30 | 40 | 96.4 |
| HTCL | 26.6 | 23.2 | 29.6 | 30 | 20 | 129.4 |
| SMT | 26.6 | 26.4 | 29.6 | -- | 20 | 102.6 |
| Total (MHz) | 69.8 | 148.8 | 118.4 | 60 | 140 | 537.0 |

### Table 3.2: Market share of MNOs by spectrum (current)

| Operator | % holding | |
|---|---|---|
| | **All spectrum** | **<1 GHz** |
| CSL | 25% | 24% |
| HKT[29] | 14% | 0% |
| **Merged Entity** | **39%** | **24%** |
| CMHK | 18% | 0% |
| HTCL | 24% | 38% |
| SMT | 19% | 38% |

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27 Effective spectrum shown here includes spectrum assigned to MNOs for the provision of mobile telecommunications services but excludes (a) 2 x 7.5 MHz of spectrum in the 850 MHz for the provision of mobile services to visitors from Mainland China; (b) 8 MHz of spectrum for the provision of mobile TV services; (c) four lots of 5 MHz of unpaired spectrum currently held by SMT, CSL, HKT and HTCL; and (d) 10 MHz of unpaired spectrum (at 2010 to 2020 MHz) which is currently not assigned to any MNO.

28 Assuming the 40 MHz of spectrum in the 2.5/2.6GHz held by Genius Brand is split 50:50 between HKT and Hutchison.

29 Assuming the 40MHz of spectrum in the 2.5/2.6GHz band held by Genius Brand is split 50:50 between HKT and Hutchison.

38. The impact of the Proposed Transaction on the market, measured by reference to the HHI, is shown in the following table.

**Table 4: HHI analysis**

| **Measure of market shares** | **HHI pre-merger** | **HHI post-merger** | **Increase in HHI** |
|---|---|---|---|
| All subscribers (9/2013) | 1,924 | 2,537 | 612 |
| 3G/4G subscribers only (9/2013) | 2,143 | 3,168 | 1,025 |
| Total revenues (2012) | 2,548 | 2,829 | 280 |
| Retail Revenues – ex handsets (2012) | 2,227 | 2,786 | 559 |
| Spectrum holdings (9/2013) | 2,082 | 2,782 | 700 |

39. The CA notes that, irrespective of whether market shares are calculated on the basis of HKT Limited's submission or the Consultant's market share assessment, post-merger the Merged Entity will have a significant market share and the Proposed Transaction falls outside the scope of the safe harbours. Notably, across the highly significant 3G/4G segment of the market (which the CA considers will continue to be an increasingly important growth segment of the market) the Merged Entity's share of supply is 45.9%, which the CA considers to be very high.

40. The CA's HHI analysis confirms that post-merger the market would be considered highly concentrated under the M&A Guidelines.

41. The CA notes HKT Limited's reference to other mergers between MNOs which, like the Proposed Transaction, result in a 5 to 4 (or in some cases 4 to 3) reduction of competition in terms of the number of players in the relevant market(s). As noted above, the CA considers that the Proposed Transaction will make the market significantly more concentrated but, in any event, notes that it is not instructive to consider, in isolation, the structural change brought about by the Proposed Transaction. Rather, the CA focuses its assessment on the change in competitive rivalry, and in particular the likely price effects, arising out of the structural change.

42. At present, CSL and HKT are competitors to each other in the retail mobile telecommunications services market, imposing competitive constraint on each other. Depending on the extent of the competitive constraint that CSL and HKT currently impose on one another, the loss of such constraint post-merger may confer on the

Merged Entity market power or enhanced market power, enabling it to increase prices (or reduce output or quality) for a significant period of time. If the services offered by CSL and HKT are close substitutes, and therefore the two entities are close competitors pre-merger, the mutual constraint they impose on each other is significant.

43. HKT Limited submits that CSL sees SMT and HTCL as its closest competitors, rather than HKT.[30] It argues that "*the degree of competition between CSL and HKT is minimal and at the margins*". HKT Limited further submits that CSL's business focus is broader and its market share is substantially greater, whereas HKT is more focussed on the mid-tier market although with some presence in the high end customer segment. HKT Limited also submits that, as compared with CSL's major competitors such as SMT and HTCL, HKT started from the weak base of SUNDAY in areas including branding, network coverage, presence in the business/commercial sector and relationships with property-company affiliates and roaming partners – and therefore is not a direct or significant competitor of CSL. HKT Limited refers to the competitive advantage enjoyed by competing MNOs in connection with, *inter alia*, price leadership, branding, number of retail outlets, access to spectrum, ability to offer cross-border services and multi-national power and scale.

44. However, some respondents to the Consultation Paper disagreed with HKT Limited's submissions:

(a) Wharf T&T Limited submitted that each of CSL and HKT's mobile business participate in the same competitive space from both a product and geographic perspective as they both (i) offer voice and data mobile telecommunications services to retail consumers throughout Hong Kong by means of extensive retail store networks which largely overlap in popular shopping districts; and (ii) have extensive mobile radiocommunications access networks covering the whole territory of Hong Kong; and

(b) SMT submitted that based on the porting statistics available to the incumbent MNOs, the two companies are respectively "*the largest donor and receiver of each other*".

45. In addition to considering submissions from third party respondents, the CA has considered the submission from RBB Economics

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[30] See page 36 of the Application.

(representing HKT Limited, Telstra and New World) contending that any MNO can pose an important competitive constraint provided it positions its brands and pricing packages appropriately, citing a number of examples of customer switching and fluctuation for CSL and HKT.

46. To enable the CA to assess whether CSL and HKT are presently close competitors, the CA instructed the Consultant to measure the "diversion ratio" between the two MNOs, which reflects the proportion of sales lost by one entity to another when the price of the former is increased.[31] If the diversion ratio from entity A to B is 0.8, and that from A to C is 0.2, this indicates that four times as many of the sales lost by A are captured by B than by C. B is therefore a more important competitive constraint on A than C, and B is a closer competitor to A than C.

47. The Consultant has calculated the diversion ratios using mobile number porting data which provides information on customer movements across different mobile services providers that involve porting of their mobile numbers. The estimated diversion ratio in the last two years from HKT to CSL is about [35 – 45%] while that from CSL to HKT is about [15 – 25%].[32] The CA interprets this to suggest that CSL is currently an important competitive constraint on HKT as [35 – 45%] of customers lost by HKT will switch to CSL, whereas the effect *vice versa*, i.e. the extent of customers lost by CSL switching to HKT, is smaller.

48. In addition to the diversion ratio estimation based on porting data, three alternative methods, namely customer win/loss records, cross-price elasticity and pair-wise correlation of market shares, have also been employed to enable the CA to estimate the closeness of competition between CSL and HKT. All these other alternative methods generate estimation results which are consistent with the results derived from the diversion ratio estimation based on porting data, namely that CSL is an important competitive constraint on HKT at present (although HKT poses less of a competitive constraint on CSL), and they are close competitors in this regard.

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[31] The "diversion ratio" between two products is the proportion of the sales lost by one product, when its price increases, that go to the other product (*The Economics of EC Competition Law: Concepts, Application and Measurement* by Simon Bishop and Mike Walker, third edition, 2010, London: Sweet & Maxwell, p.564 refers.) In other words, if the price of product A rises by 10% and that sales fall by 10 units as a consequence, and among the 10 units sales lost by product A, if 4 of those lost sales unit are now captured by product B, then the diversion ratio from A to B is 0.4, or 40%. The implication is that the higher the diversion ratio, the greater the competitive constraint imposed by the relevant product.

[32] Please refer to Chapter 5 of the Consultancy Report for a discussion on the quantification of the unilateral effects of the merger.

49. The Gross Upward Pricing Pressure Index (GUPPI) has also been used for quantitative measurement of the incentive of the Merged Entity to raise price post-merger. The GUPPI measures the value of sales diverted to Entity 2 (i.e. CSL) as a fraction of lost revenues on Entity 1 (i.e. HKT) if Entity 1 raises prices post-merger. The higher this fraction, the higher is the incentive to raise price post-merger.[33] According to the calculation of the Consultant, a 20% GUPPI will result for HKT post-merger whereas the GUPPI for CSL will be 4.4%. This would indicate a strong incentive for HKT to increase its prices post-merger that gives rise to competition concerns.[34]

50. Further estimates about the magnitude of the predicted price increase post-merger have been arrived at by making certain assumptions about the demand curve, and using GUPPI as an input. The result is that, post-merger, HKT could increase its prices by 11.5% and CSL could increase its prices by 4.6%. The CA is of the view that the extent of these possible price increases, especially in the case of HKT, suggests that the Proposed Transaction may substantially increase HKT's market power.

51. **Having regard to the representations received and the evidence and analysis available to it, on balance the CA is of the view that the Proposed Transaction is likely to give rise to the effect of SLC in the retail mobile telecommunications services market from a unilateral effects perspective,** as the merger would result in the exit of CSL as an important competitor to HKT, from the retail mobile telecommunications services market, which in turn would likely confer market power or enhanced market power to the Merged Entity enabling it to increase prices.

[33] The logic behind the GUPPI measure is this: Pre-merger, if HKT were to attempt to increase its price, many of its customers would switch to CSL as implied by the relatively high diversion ratio set out above. Customers lost to CSL and their associated revenues are therefore a cost to HKT if HKT were to attempt to impose a price increase. Post-merger however, such lost customers and their associated customers would be re-captured by HKT. The close competitor status of CSL means that if HKT were to impose a price increase post-merger, a major share of the defected customers and their associated revenue would be re-captured by HKT as CSL would become part of HKT. Hence, the cost to HKT (in terms of lost customers and their associated revenues) to impose a price increase would be lowered with the merger compared with the situation without the merger. The merged entity would thus have enhanced incentive to increase price post-merger. The same logic applies to viewing the matter from the perspective of CSL instead of HKT. Post-merger, CSL would also lose a competitor albeit a less close one based on the lower diversion ratio from CSL to HKT.

[34] See Table 35 of the Consultancy Report.

Coordinated effects

52. A merger may lessen competition "*…through coordinated effects, particularly in oligopolistic markets, by increasing the likelihood of the coordinated exercise of market power, either overtly or tacitly, by the remaining competitors.*"[35] Market structure and conditions are the key elements that need to be assessed in order to determine whether or not the Proposed Transaction may render it easier for the players in the relevant market to achieve a coordinated outcome than without the merger. Conditions conducive to coordination typically include concentrated markets, product homogeneity and visible pricing.[36] On the other hand, a market structure that is characterized by differentiated services offerings, rapid introduction of innovative products/services, and the presence of a "maverick" competitor is less likely to result in facilitating the Merged Entity and its rivals to engage in coordinated conduct.[37]

53. Currently the five MNOs account for over 90% of the market share by subscribers in the retail mobile telecommunications services market. The Proposed Transaction would result in the exit of CSL as an independent competitor from the retail mobile telecommunications services market, rendering the market more concentrated. This is especially the case when evidence tends to suggest that CSL, HKT and HTCL are the main service providers in the middle segment of the retail mobile telecommunications services market.[38] In that particular market segment, the number of independent competitors would be reduced from three to two post-merger.

54. There were also instances in the past where the former TA and the CA were alerted to conduct of the MNOs which was suspected of involving coordination, or potentially gave rise to risks of coordination.[39]

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35 Paragraph 4.20 of the M&A Guidelines.

36 Paragraph 4.24 of the M&A Guidelines.

37 According to paragraph 4.24 of the M&A Guidelines, a "maverick" firm has an economic incentive to "not" follow coordinated action. One can also view a "maverick" firm as "*a firm whose economic incentives make it an aggressive competitor*", p. 227 footnote 17 in Kokkoris and Shelanski (2014).

38 SMT currently operates at the top end of the retail services market whereas CMHK operates mainly in the mass-market segment to attract voice centric customers, but CMHK and SMT have the potential to be disruptive competitors. See Chapter 7.6 of the Consultancy Report.

39 Notably, in 2000, the former TA launched an investigation into whether the simultaneous price adjustments of the prices on 2 January 2000 by the then six MNOs were in compliance with the competition conditions of the licences held by the operators, and formed the opinion that at the very least some kind of "arrangements" must have existed which led to the simultaneous price adjustments. See the investigation report issued by the former TA: http://tel_archives.ofca.gov.hk/en/c_bd/completed-cases/rp20000120.pdf. For details of the other

Such instances suggest that there is a real possibility of coordinated effects. With fewer market participants in the retail mobile telecommunications services market post-merger, in theory it is possible that it would be easier for the players to coordinate their conduct, depending on the resulting market structure and conditions.

55. The CA also takes note that there is a pre-existing tie between the HKT group and the Hutchison telecom group through Genius Brand. As mentioned in paragraph 53 above, only three players are identified in the middle segment of the retail mobile telecommunications services market, where CSL poses as a competitive constraint on both HKT and HTCL. With the exit of CSL as an independent operator from the retail mobile telecommunications service market post-merger, only HKT and HTCL will be left in that middle segment of the market. Potentially, the risks of coordination could increase, especially given the Genius Brand joint venture which could serve as a convenient conduit for communications for the purposes of coordinating their conduct.[40]

56. Some respondents to the Consultation Paper also raised concerns regarding the existence of a "family tie" between the major shareholders of the two groups. However, after due consideration of such representations and the responses from HKT Limited, the CA takes the view for the purposes of this analysis that there is not sufficient evidence to demonstrate that such a "family tie" has had an adverse impact on competition between HKT and HTCL. Further, the family tie between HKT and HTCL is pre-existing and unaffected by the Proposed Transaction. There is therefore no need to consider the issue any further.[41]

57. Whilst there are indicators that potentially point to an increased risk of coordinated conduct between the market players post-merger, there are also indicators to the contrary. The CA notes that MNOs in Hong Kong have all along been providing a diverse portfolio of service/product offerings to customers in the retail mobile telecommunications services market. The multitude of such product/service offerings potentially renders it more difficult for the MNOs to reach an agreement on the terms of coordinating their conduct,

two instances, see http://tel_archives.ofca.gov.hk/en/ca_bd/case_closed/T36_08.pdf and http://www.coms-auth hk/filemanager/listarticle/en/upload/387/06-05-2013.pdf.

40 On the other hand, the CA notes HKT Limited's representations in response to the consultation paper advising that there are currently in place regulatory safeguards including specific regulatory compliance committees which monitor the relationship between HKT and HTCL.

41 See paragraph 6.6 of the Consultancy Report.

as well as makes it more difficult and costly to monitor each other's compliance with the agreed terms.

58. Further, the CA considers that CMHK potentially could be considered as a "maverick" firm that could be a disruptive competitor over the next few years, and that in the long run, SMT also has the potential to act as a maverick. Whilst CMHK currently operates mainly in the voice centric mass-market segment of the retail mobile telecommunications services market, it has the potential to offer more data-based 3G and 4G services and move into the middle segment going forward, given its 4G spectrum holding and the 3G network capacity sharing agreement that it has entered into with HKT. Further, with significant 4G capacity, CMHK would unlikely have much incentive to participate in any coordinated conduct. The same can also be applied to SMT, given that in the long term, SMT is projected to have surplus network capacity on the basis of the estimation of the long-term demand and supply of RAN capacity of SMT. [42]

59. Hong Kong's retail mobile telecommunications services market is characterized by the rapid introduction of new products and new and innovative service offerings. Such characteristics make it difficult for industry players to reach a coordinated outcome because the uncertainties brought about by innovative products/services would render it difficult to predict what exactly needs to be agreed on by the potential participants of coordinated conduct in the first place. Coordinated effects are considered to be "*highly unlikely to occur in dynamic markets in which nature of the game being played may change radically*".[43]

60. Overall, while it is difficult to assess "quantitatively" the coordinated effects following a merger, **having regard to the representations received and the evidence and analysis available to it, on balance the CA takes the view that the Proposed Transaction would be unlikely to give rise to the effect of SLC from a coordinated effects perspective, due to the heterogeneity of product/service offerings and the presence of CMHK and SMT as potential "maverick" firms.**

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[42] Please refer to Chapter 4 of the Consultancy Report for a discussion of the network capacity of the MNOs. See also paragraphs 61 to 67 below.

[43] Page 282, in Kokkoris and Shelanski (2014).

Effects of Spectrum Concentration

61. For each MNO, network capacity is roughly a multiplicative function of the amount and type of spectrum held and of the number of its transmission sites. The Proposed Transaction would increase substantially the total RAN capacity available to the Merged Entity through the amalgamation of their respective networks.[44] Given that demand for mobile data services is likely not only to remain strong, but will be on the increase over the next few years, this increase in RAN capacity may give the Merged Entity a competitive advantage over its rivals. The CA notes the concerns raised in response to the Consultation Paper by some respondents, including SMT, and considers that it is important to consider the network capacity effects arising out of the Proposed Transaction from both the short term and long term perspectives.

*Short Term Impact*

62. In the short term, the consideration is whether there exists any shortfall in RAN capacity immediately following the Proposed Transaction which might give rise to competition concerns. The analysis is focussed on identifying whether there are short-term network capacity problems in terms of the competitiveness of the MNOs in launching 4G services, provision of voice services, 3G network capacity, and providing good in-building coverage.

63. The CA notes the assessment made in the Consultancy Report and the representations received regarding spectrum. **Having regard to the representations received and the evidence and analysis available to it, on balance the CA is of the view that the Proposed Transaction is unlikely to give rise to short-term network capacity problems.**[45] For the mobile data market, the Merged Entity will unlikely gain short-term advantage in its ability to roll-out 4G data services post-merger because all of its rivals have sufficient spectrum at 2.3 GHz and 2.6 GHz for launching 4G services. Whilst the Merged Entity would have a 30% share of 4G spectrum at 2.3 GHz and 2.6 GHz combined, this percentage is well below its combined market share, whether by subscribers or by data volume. As regards the impact on the mobile voice market, whilst the Proposed Transaction will substantially increase the

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[44] The increase will be considerably more than the simple sum of the network capacities of CSL and HKT operating separately.

[45] See Chapter 4 of the Consultancy Report.

amount of spectrum which the Merged Entity can use for voice services in the short term,[46] such an increase is matched by a corresponding increase in the number of subscribers whose demand would need to be served by such spectrum. It is unlikely that the additional capacity created by the Proposed Transaction would lead to any competitive advantage for the Merged Entity in the short term.

64. Until the current assignment of the 3G Spectrum expires in October 2016, the Merged Entity will hold 50% of the 3G Spectrum. Taking into account the fact that the rivals of the Merged Entity have sufficient 4G spectrum which offers higher broadband speeds at lower unit costs, and that HKT has entered into an agreement to share its 3G network capacity with CMHK, the holding of increased 3G Spectrum by the Merged Entity only until October 2016 is unlikely to give rise to any competition concerns in the short term.

65. Further, as the Proposed Transaction will not increase the holding of spectrum in the frequency band below 1 GHz, which provides better in-building coverage, by the Merged Entity given that currently HKT does not hold any spectrum in the frequency band below 1 GHz, no issue will arise following the Proposed Transaction from any short-term advantage in the ability of the Merged Entity to offer good in-building coverage.

*Long Term Impact*

66. To assess the long term impact of spectrum concentration, it is first necessary to estimate the long-term demand and supply of RAN capacity for the Merged Entity and its rivals. The CA has undertaken a very detailed and comprehensive analysis in this respect,[47] estimating the long-term demand and supply of RAN capacity based on the spectrum holdings of the MNOs,[48] the number of BTS sites they operate, and the application of a utilization factor (capturing the extent of overlap of

[46] Counting spectrum held at 900 and 1800 MHz as voice spectrum in the short term.

[47] For details, see Chapter 4 of the Consultancy Report.

[48] For spectrum holdings, four possible scenarios in which the spectrum holdings (in particular the 3G Spectrum) might be re-allocated in the long term are created for conducting the assessment, namely that (1) the Merged Entity retains all the existing spectrum, including the 3G Spectrum, that they will hold post-merger; (2) assuming the rules of the auction for reassignment of the 3G Spectrum restricts the Merged Entity to holding 2 x 20MHz of the 3G Spectrum, and the remaining 3G Spectrum is roughly equally shared by the other three MNOs; (3) the Merged Entity retains only 2 x 15 MHz of the 3G Spectrum as per its voluntary commitment and the remaining 3G Spectrum is roughly equally shared by the other three MNOs; and (4) in addition to holding only 2 x 15 MHz of the 3G Spectrum, the Merged Entity further gives up 2 x 10 MHz of 1800 MHz frequency band spectrum, with the remaining 3G Spectrum and the 2 x 10 MHz of 1800 MHz frequency band spectrum roughly equally shared between the other three MNOs.

operator sites for base stations for the MNOs), and has generated a range of estimates of the long-term RAN capacity for the Merged Entity and its rivals.

67. The results of this analysis show that, assuming there is no change to the spectrum holdings of the Merged Entity after October 2016, the Proposed Transaction would result in the Merged Entity having a share of RAN capacity which far exceeds the estimated long-term data demand. Whilst spectrum concentration, in and of itself, may not raise competition concerns, the CA notes that the assessment conducted on unilateral effects has already indicated a likelihood of the creation of market power or enhanced market power on the part of the Merged Entity. **Having regard to the representations received and the evidence and analysis available to it, on balance the CA is of the view that the Proposed Transaction is likely to give rise to the effect of SLC, due to spectrum concentration resulting in the Merged Entity having a long term RAN capacity in excess of the estimated long-term data demand which would serve to reinforce the likelihood of the creation of market power or enhanced market power on the part of the Merged Entity.**

<u>Assessment of the Effect of SLC in the retail mobile telecommunications services market</u>

68. Given the assessment above, the CA considers that the Proposed Transaction will or will be likely to result in the effect of SLC in the retail mobile telecommunications services market, in that the loss of CSL as an important independent competitor to HKT will likely create market power or enhanced market power on the part of the Merged Entity in the retail mobile telecommunications services market. Further, spectrum concentration on the part of the Merged Entity will likely result in the Merged Entity having long term RAN capacity in excess of the estimate long-term data demand, that would in turn reinforce the creation or enhancement of market power.

### *(B) Wholesale Access to Mobile Networks*

69. At present, HKT, CSL and HTCL are the principal active providers of wholesale access services to MVNOs, CMHK is relatively inactive, and SMT currently takes no part in this market at all. Through gaining access to mobile networks, MVNOs are able to provide a range of retail mobile telecommunications services. MVNOs’ customer base is mostly prepaid and the average MVNO subscriber relatively uses less of

data services. The combined market share of MVNOs by subscribers in the retail mobile telecommunications services market is around 7% and its share by revenue is even lower. Despite their modest share of the overall retail mobile telecommunications services market, competition from MVNOs is nonetheless an important competitive constraint on retail mobile prices, especially in the lower end segment of the market.

70. For MVNOs to be able to continue to act as competitive constraints on the pricing/output decision on the MNOs in general, and the Merged Entity in particular, they would need to have continued access to adequate RAN capacity. The CA therefore considers it important to assess the likely effects of the Proposed Transaction on access for MVNOs to wholesale access services. In carrying out its assessment, the CA has taken into account the representations received on this issue from various stakeholders, including those from HKT Limited, RBB Economics and the MVNOs.

71. Given that the demand for data services is expected to continue to grow rapidly in the next few years, the MNOs may have to reserve more of their RAN capacity for their own use in order to meet such data demand, rendering it more difficult – or more costly – for MVNOs to strike a deal with them for access to their networks. The CA considers that the Proposed Transaction will likely further aggravate the situation of the MVNOs, noting especially that HKT, CSL and HTCL are currently the main hosts for MVNOs. Post-merger, the number of active hosts will be reduced from three to two, one of which is the Merged Entity[49] and therefore capable of controlling the important network resource relied upon by MVNOs for continuing their business. Potentially, CMHK or SMT could fill the market void left by CSL, but they would be able to do so only where the Proposed Transaction would not result in over-concentration of spectrum holdings under the control of the Merged Entity which, according to the analysis conducted on spectrum holdings and RAN capacity in paragraphs 66 and 67 above, is unlikely to be the case here.

72. In addition, any difficulty faced by the MVNOs in accessing RAN capacity post-merger, whether or not leading to their exit from the market, would further lead to a weakening of the potential competitive constraint that MVNOs might be able to exert on the pricing/output

[49] See conclusion drawn in paragraph 67 above that spectrum concentration resulting in the Merged Entity having a long term RAN capacity in excess of the estimate long-term data demand would reinforce the likelihood of the creation of market power or enhanced market power on the part of the merged entity, that enables it to act (such as to increase price or restrict output) without competitive constraint.

decision of the MNOs in general, and the Merged Entity in particular, in the downstream market for retail mobile telecommunications services.

73. **Having regard to the representations received and the evidence and analysis available to it, on balance the CA is of the view that the Proposed Transaction is likely to give rise to the effect of SLC in the upstream wholesale access market by reducing the number of existing active players from three to two and making the Merged Entity the primary source of wholesale access for MVNOs.** This, in turn, is likely to have an adverse effect on competition – in particular, the constraint exerted by MVNOs – in the downstream retail mobile telecommunications services market.

***(C) Backhaul Services***

74. Backhaul services offered by FNOs to MNOs for the connection of each BTS to the core network is a key component of an MNO's network and accounts for a significant proportion of its costs. Moreover, with the increasing deployment of 4G technology, MNOs will need to increase their backhaul capacity to carry more traffic.

75. On the effects of the Proposed Transaction on backhaul services, the CA received responses to the Consultation indicating concerns.[50] The CA also received, and took into account, further submissions from HKT Limited and RBB Economics responding to these concerns.

76. In terms of the CA's assessment, given that HKT and PCCW-HKT, together, are an incumbent FNO and a major backhaul service provider to MNOs, it is necessary to consider whether post-merger, HKT and PCCW-HKT would have the incentive to raise backhaul prices to rival MNOs thereby conferring a competitive advantage on the Merged Entity, by enabling the Merged Entity to have room to raise retail prices in any relevant market through raising rival MNOs' costs.

77. **Having regard to the representations received and the evidence and analysis available to it, on balance the CA is of the view that the Proposed Transaction is unlikely to give rise to competition concerns for the provision of backhaul services** because the competitive landscape in this market for backhaul services would be the same with or without the Proposed Transaction, given that CSL does not

[50] Response from Wharf T&T Limited.

supply backhaul services at all. Therefore the competition faced by HKT and PCCW-HKT can be expected to remain broadly the same post-merger. The Proposed Transaction will not or will not be likely to have an effect of SLC in the backhaul services market.

78. In fact, post-merger, CSL would become a captive customer of HKT and PCCW-HKT and so supply of backhaul service by other FNOs to CSL is likely to reduce significantly. The network capacity of these rival FNOs to HKT and PCCW-HKT would remain unchanged and the Proposed Transaction would therefore result in those FNOs having spare fixed network capacity. This spare fixed network capacity would then generate downward pressure on the market prices for backhaul services as these rival FNOs will attempt to sell their spare capacity to other parties to fill up the revenue gap.

### *(D) Interconnection Services*

<u>Fixed-mobile interconnection</u>

79. Given that HKT and PCCW-HKT have a strong market position as a FNO, a question arises as to whether, post-merger, it could leverage this position into the mobile services market by re-negotiating interconnect charging arrangements as well as demanding higher interconnection charges from the other MNOs. While such an increase in interconnection charge would form only an internal transfer charge within the Merged Entity and thus would not affect the group's profitability, it might raise the costs of rival MNOs. Raising rival MNOs' costs may leave room for the Merged Entity to set higher prices in any of the relevant downstream market(s).

80. The CA has reached the view that, given the current interconnection regulatory regime which deregulates fixed-to-mobile interconnection charges, with no major regulatory and competition issues arising therefrom, there is no evidence suggesting that MNOs have less bargaining power vis-à-vis FNOs in negotiation for interconnection agreements. If HKT and PCCW-HKT were to raise their interconnection charges for origination from the fixed network and/or termination to a MNO, the rival MNO could respond by demanding a correspondingly higher origination/termination charge on its own network. Such competitive response on the part of MNOs should be sufficient to deter HKT and PCCW-HKT from attempting post-merger to raise its interconnection charges in the first place.

81. **Having regard to the representations received and the evidence and analysis available to it, on balance the CA is of the view that the Proposed Transaction is not likely to adversely affect the MNOs' bargaining power on fixed-mobile interconnection.**

<u>Wholesale access to MNOs' networks by non-affiliated ETS operators</u>

82. LAC is a fee charged by all local network operators, whether FNOs or MNOs, for ETS call termination and call origination. LAC can thus be regarded as a wholesale access service provided by the MNOs and FNOs, with the charge imposed on the ETS operators.[51]

83. The CA has not identified any competition concerns arising out of the Proposed Transaction, given that the percentage of total revenues and profits generated by LAC is small when compared with the revenues and profits generated by the Merged Entity overall. In particular, for outbound ETS calls, the CA understands that since the new LAC regime was put into effect in July 2013[52], FNOs and MNOs have negotiated agreements [redacted] The CA considers that the Merged Entity is unlikely to have any incentives to unilaterally renege on those agreements. **Having regard to the representations received and the evidence and analysis available to it, on balance the CA is of the view that the Proposed Transaction is unlikely to give rise to the effect of SLC as far as LAC is concerned.**

<u>Other interconnection services</u>

84. The CA has not identified any substantial competition concerns arising out of the Proposed Transaction in relation to other types of interconnection, such as fixed to fixed interconnection and mobile to mobile interconnection.

### *(E) International Roaming Services*

85. For outbound roaming, MNOs in Hong Kong charge their customers travelling overseas for roaming on to mobile networks in other places and they in turn pay wholesale roaming charges to the overseas mobile operators. CSL currently may benefit from its association with

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[51] ETS can be provided by FNOs under their carrier licences which authorise the holders to provide external fixed services. Non-facilities based services providers may also provide ETS by obtaining an SBO licence. For MNOs, they all have SBO licences for the provision of ETS.

[52] For details of the new LAC regime, please refer to the former TA statement on the matter: http://tel_archives.ofca.gov.hk/en/tas/interconnect/ta20111223.pdf.

Telstra's bargaining power in negotiating roaming contracts. However, post-merger and once the existing roaming contracts come to an end, the Merged Entity may lose the benefit of Telstra's bargaining power in negotiating roaming contracts. This would probably lead to the Merged Entity paying higher roaming wholesale prices overall to overseas mobile operators which, in turn, would lead to higher retail roaming prices for the Merged Entity's retail customers (and perhaps also lead to higher retail roaming prices across the whole sector). The CA notes the Consultant's finding that these effects are unlikely to be significant for Hong Kong's mobile users given the shrinking importance of retail roaming revenues in Hong Kong, and the small impact which the loss of Telstra's bargaining power in global markets would have on the bargaining power of the Merged Entity.[53]

86. The CA agrees with the Consultant's assessment that the Proposed Transaction raises no serious concern in this wholesale market for roaming.

87. As for inbound roaming, the MNOs in Hong Kong handle traffic from overseas visitors to Hong Kong and receive payments from the overseas mobile operators serving the visitors in their home locations for doing so. According to the Consultant, the Proposed Transaction would likely result in an increase of the wholesale roaming rates in Hong Kong as this wholesale market would become more concentrated post-merger, with the Merged Entity holding the largest market share. While the increase in the wholesale roaming rates might be passed on to the overseas visitors, it is unlikely to affect the Hong Kong customers. In any case, wholesale roaming revenues in Hong Kong have declined in importance over the years. **Having regard to the representations received and the evidence and analysis available to it, on balance the CA is of the view that the Proposed Transaction is unlikely to give rise to the effect of SLC in the international roaming market.**

### *(F) Other Related Services*

Fixed-mobile bundles

88. HKT and PCCW-HKT, together, are the incumbent FNO that holds a relatively strong position in the fixed network services market. One issue to consider is whether post-merger, HKT and PCCW-

[53] Total retail roaming revenues in Hong Kong among the MNOs have declined in importance between 2008 and 2012 from 18% to 11%. Please refer to Chapter 8 of the Consultancy Report for details.

HKT might be able to leverage their strong position in the fixed network services market to gain competitive advantage in the mobile market, such as by bundling its fixed services together with mobile services at very attractive terms.

89. In this regard, the CA notes the concerns raised in response to the Consultation Paper, in particular by SMT, as well as the responses to these concerns submitted by HKT Limited and RBB Economics. Having regard to those representations, the CA observes that HKT and PCCW-HKT can already offer such attractive terms to HKT's mobile customers without the Proposed Transaction. Furthermore, CSL is an MNO and does not have any affiliated fixed network, therefore HKT and PCCW-HKT's strong position in the fixed network services market would be the same with or without the Proposed Transaction.

90. Leveraging may also occur the other way round and so the CA has considered whether the Merged Entity having an enlarged mobile customer base post-merger would enable it to leverage its position in the retail mobile telecommunications services market onto the fixed network services market. Here, the CA notes that the main way to sell fixed-mobile bundles is by persuading the existing fixed services customers to add mobile services to this bundle, rather than the other way round, given that purchase of a fixed service is a household decision while purchase of a mobile service is typically a decision for an individual member of a household. The Proposed Transaction is unlikely to make it any easier for the Merged Entity to persuade a mobile customer to take up a bundle that includes fixed services.

91. **Having regard to the representations received and the evidence and analysis available to it, on balance, the CA considers that the Proposed Transaction is unlikely to give rise to the effect of SLC by any form of leveraging from the fixed market to mobile market or *vice versa*,** due to the fact that fixed-mobile bundling is not popular in Hong Kong**.**

Access to public Wi-Fi networks

92. On a separate front, there is an increasing interaction between Wi-Fi based on fixed broadband and mobile services. Hence, the CA has also considered whether HKT and PCCW-HKT are likely to be able to leverage their market position in the fixed broadband market onto the mobile market post-merger. The particular concern is whether HKT and PCCW-HKT might deny rival MNOs' access (or raise the price

of access) to their Wi-Fi network post-merger, and if so, whether this gives rise to any competition concern.

93. At present, HKT and PCCW-HKT, HGC and HKBN are the main public Wi-Fi suppliers. The relative ease with which MNOs in general could access public Wi-Fi networks is mainly determined by competition among the FNOs. **Having regard to the representations received and the evidence and analysis available to it, on balance the CA is of the view that the Proposed Transaction is unlikely to have the effect of SLC** in this market, as the Proposed Transaction will not change the competitive landscape governing the FNOs, and CSL does not operate any public Wi-Fi network**.**

## Countervailing Effects and Efficiency Considerations

94. As analysed in above, the CA considers that the Proposed Transaction would likely have the effect of SLC in the retail mobile telecommunications services market and the upstream wholesale access services market. It is then necessary for the CA to consider whether there are countervailing factors or efficiency considerations that can counter the competition concerns, in order to reach a conclusion on whether the effect of SLC would result or would be likely to result from the Proposed Transaction.

### *(A) Countervailing effects*

95. Considerations of countervailing effects include the likelihood of new entry and countervailing buyer power on the part of customers in the retail mobile telecommunications services market and wholesale access services market. If evidence suggests that new and viable competitor(s) is(are) ready to enter the relevant market, and/or customers in the relevant market are able to exert pressure on the Merged Entity through switching to its rivals, there may be sufficient constraints in the retail mobile telecommunications services market and wholesale access services market which might offset the market power or enhanced market power conferred on the Merged Entity post merger.

96. The CA notes that HKT Limited submits that market entry is a real and credible possibility, citing 21 ViaNet as an example of a recent market entrant[54] and China Unicom as a potential new entrant. The CA notes also Wharf T&T Limited's disagreement with the suggestion that

[54] Please refer to Chapter 7 of the Consultancy Report.

21 ViaNet is a credible potential competitor in its response to the Consultation Paper.

97. The CA's own analysis indicates that the prospects for a new MNO entry (including by 21 ViaNet) are low based on an assessment of the likelihood of 21ViaNet and China Unicom[55] entering into the retail mobile telecommunications services market in Hong Kong. The CA further notes that, more importantly, in the unlikely event that there are prospective entrants into the relevant market, they would have limited RAN capacity at least in the near term and therefore would be unlikely to exert a significant competitive constraint on the four main MNO players in the market post-merger.

98. **Having regard to the representations received and the evidence and analysis available to it, on balance the CA is of the view that the likelihood of MNO entry is low and that, in any event, any potential new entrant is unlikely to exert a significant competitive constraint on the remaining MNOs following the Proposed Transaction.**

99. The CA has also considered the possibility of entry into the "mobile" data services market by data services bundles that offer both a home broadband line and a network of Wi-Fi hotspots. In a place of limited geographic spread such as Hong Kong, bundled offers of this kind may constitute substitutes to data services offered by MNOs and MVNOs, and act as a constraint on the pricing power of MNOs in relation to data services. Similarly, with the increasing number of public Wi-Fi hotspots, the running of a "no-frills" Wi-Fi-based mobile service which offers many of the features of an LTE based retail mobile service at a fraction of the cost may become a possibility.[56]

100. The CA notes that it may be possible for FNOs and other service providers to provide product substitutes to data customers of the retail mobile telecommunications services market, by making use of the proliferation of the public Wi-Fi access points in Hong Kong. However, in the context of Hong Kong, the likelihood of such entry into the data segment of the retail mobile services market should not be over-estimated. At present, there is no evidence to suggest that such market entry is likely, and would occur in a timely manner as well as in a magnitude that would

[55] China Unicom is an MNO in the Mainland. In Hong Kong, it operates MVNO services through China Unicom (Hong Kong) Operations Limited.

[56] Such a service is already available in the United States. See Chapter 7 of the Consultancy Report.

be sufficient for the new entrant(s) to counteract the market power or enhanced market power conferred on the Merged Entity post merger.[57]

101. The CA has also considered customer switching or 'churn' which can exert constraint on suppliers' pricing and product offerings, as well as spur them to improve service levels and introduce new products. In the context of the Proposed Transaction, for consumer switching to have a disciplining effect on the pricing/output decision on the Merged Entity, it is important that in the long term, the rival MNOs have sufficient RAN capacity to meet the demand of those customers who switch from the Merged Entity.[58] As discussed in paragraphs 61 to 67 above, due to the spectrum concentration under the control of the Merged Entity, the CA does not consider it likely that rival MNOs will have sufficient RAN capacity to accommodate sufficient volumes of switching customers if the Merged Entity were to raise price post-merger, and therefore customer switching would not produce an effective countervailing effect on the competition concern arising post-merger.

***(B) Efficiency considerations***

102. Mergers have a potential to generate efficiencies, which can enhance the merged firm's ability and incentive to compete. To the extent that an efficiency-enhancing merger increases competition by creating a more vigorous competitor, the CA may consider the efficiency gains to be a relevant matter to take into account in forming an opinion whether the merger substantially lessens competition. The CA would need to be satisfied that the efficiency gains must occur as a direct result of the merger, be clearly identified and verified, and can be translated into a more effective level of competition from the merged entity than the level that was offered by the merging parties separately. Furthermore, it must be demonstrated that it would be unlikely to have been achieved without the merger. Efficiency claims must be substantiated by the merging parties to enable the CA verify by reasonable means: the likelihood and magnitude of each claimed efficiency; how and when each efficiency would be achieved; how each efficiency would enhance the

[57] Before market entry would be taken into consideration as part of the countervailing effects, competition enforcement agencies such as those in the United States will assess whether the entry will be timely, likely and sufficient. For reference, please refer to paragraphs 9.1 to 9.3 of the Horizontal Merger Guidelines issued by the Department of Justice and Federal Trade Commission: http://www ftc.gov/sites/default/files/attachments/merger-review/100819hmg.pdf.

[58] If the MNOs run out of RAN capacity post-merger, they will not have the ability to accommodate the demand of the customers switching from the Merged Entity even if they have the incentive to do so.

merged firm's ability and incentive to compete; and why each efficiency would be merger-specific.[59]

103. The CA notes that HKT Limited and RBB Economics submit that the Proposed Transaction would lead to efficiencies.[60] Such efficiencies are described as including enabling HKT to realize operating cost savings via economies of scale and rationalization of assets and activities over time, as well as access benefits that customers of CSL and/or HKT would gain from the Proposed Transaction.[61]

104. The CA is of the view that HKT Limited has not provided sufficient evidence to substantiate these claims. HKT Limited has not demonstrated why the efficiency gains could only be achieved by the Proposed Transaction and are unlikely to be achieved through other means with less significant anti-competitive effects. HKT Limited has not provided any information about the likelihood and magnitude of each claimed efficiency gain, and there is little, if any, substantiation provided which would enable the CA to verify the efficiency claims.[62]

**Conclusion on Assessment of SLC**

105. In the light of the above assessment, first, the CA finds that the Proposed Transaction would likely result in CSL exiting the retail mobile service market as an important competitive constraint on HKT. In addition, the Proposed Transaction would significantly increase the concentration of spectrum holdings and RAN capacity under the control of the Merged Entity, leading to a relative weakening of the competitive position of the remaining operators, in terms of the ability of the rival MNOs and MVNOs to act as effective competitive constraints on the Merged Entity. As new entry to the retail mobile telecommunications services market is unlikely, these two factors in combination (i.e. the exit of CSL from the retail mobile services market as an independent competitor of HKT and spectrum concentration under the control of the Merged Entity) are likely to produce unilateral effects having the effect of SLC in the retail mobile telecommunications services market.

[59] See paragraphs 4.75 to 4.85 of the M&A Guidelines for a discussion of the efficiency considerations.
[60] Section 5.2 of the Application.
[61] HKT Limited submitted that post-merger, the existing HKT customers would gain immediate access to CSL's spectrum below the 1GHz frequency band and its international roaming services agreements, while the existing CSL customers would gain immediate access to HKT's Wi-Fi network and innovative applications.
[62] See also Chapter 7 (part 7.7) of the Consultancy Report.

106. Second, the Proposed Transaction would have the effect of reducing the number of currently active suppliers of wholesale network access services to MVNOs from three (HKT, CSL and HTCL) to two. Given the unlikely entry of CMHK or SMT into the upstream market due to the spectrum concentration discussed above, the CA is of the view that the Proposed Transaction is likely to have the effect of SLC in the upstream wholesale access services market.

107. Third, the MVNOs' bargaining power vis-à-vis MNOs in negotiating wholesale network access agreements would likely be significantly weakened by the exit of CSL from the wholesale access services market as an independent competitor post-merger. This in turn would lead to a weakening of the potential competitive pressure that MVNOs might be able to exert on the pricing/output decision of the MNOs in general, and the Merged Entity in particular, thus further exacerbating the adverse competition effects in the downstream market for retail mobile services.

108. The CA has not identified any countervailing power which would counteract the above competition concerns arising post-merger. HKT Limited has also not provided sufficient evidence to substantiate its efficiency claims to enable the CA to assess to what extent, if any, the efficiency gains as claimed would offset the competition concerns identified.

109. In conclusion, **the CA is of the opinion that the Proposed Transaction would have, or would be likely to have, the effect of SLC in the: (a) downstream retail mobile telecommunications services market from both a unilateral effects perspective and a spectrum concentration perspective; and (b) upstream wholesale access services market. The CA does not consider that the Proposed Transaction would have, or be likely to have, the effect of SLC in any other telecommunications markets.**

## PUBLIC BENEFIT CONSIDERATIONS

110. If the CA forms an opinion that a proposed merger would have, or be likely to have the effect of SLC affecting a telecommunications market, consideration will then have to be given to whether the proposed merger would have, or be likely to have, a benefit to the public and that the benefit would outweigh any detriment to the

public that would be, or would likely to be, constituted by any such effect of SLC.[63]

111. The CA will need to be satisfied that the public benefit is real, likely to be realised within a reasonable period after the merger, likely to be sustainable, would not be achieved absent the merger, and that the benefit outweighs the detriment to the public brought about by the effect of SLC. Any claim of public benefit arising from the merger or acquisition must be evidenced and justified by the merging parties. The merging parties need to show that the public benefit will occur as a direct result of the merger; the likelihood and magnitude of the claimed benefit; how the benefit would be achieved; and how the benefit would be passed on to consumers, in whole or in part.[64]

112. HKT Limited claims notably in paragraphs 1.4, 2.5, 5.1, 5.2 and 13 of the Application that the Proposed Transaction would result in public benefits.[65] HKT Limited has not provided evidence to substantiate such claims. Other than stating that the Proposed Transaction will lead to substantial public benefits, HKT Limited has not attempted to show that these benefits will occur as a direct result of the Proposed Transaction, how likely the benefits will occur, how large in scale the benefits will be, and that the benefits will not occur but for the merger.[66] Overall, **the CA considers that HKT Limited has not made out a case that the Proposed Transaction would result in a benefit to the public, let alone that the benefit would outweigh any detriment to the public that would be, or would likely to be, constituted by the effect of SLC as identified.**[67]

## REMEDIES AND DIRECTION

113. Under section 7P(7)(b)(ii) of the TO, when the CA forms an opinion that a proposed merger would have, or be likely to have, the effect of SLC in a telecommunications market, the CA "*may decide to*

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63 Section 7P(7)(b)(iii) of the TO.
64 See Chapter 5 of the M&A Guidelines.
65 Paragraphs 5.1 and 5.2 are actually under the heading "Rationale and Efficiencies" but what is claimed there, especially in relation to the rationalisation of networks, cost savings and efficiencies, and HKT/CSL customers benefitting from better access, is very similar to what is claimed under "public benefits". HKT Limited has also made similar public benefits claim in its response to the Consultation Paper of 4 February 2014 (page 11): http://www.comsauth.hk/filemanager/common/policies_regulations/competition/submission/20140205/HKT.pdf.
66 See also Chapter 9 of the Consultancy Report.
67 Indeed, many items claimed as public benefits by HKT Limited are in fact the same items which are listed as efficiency gains attributable to the Proposed Transaction.

*give consent subject to the direction that the carrier licensee concerned takes the action that the [CA] considers necessary to eliminate or avoid any such effect*". Alternatively, the CA may also decide to refuse to give consent.

114. It is stated in the M&A Guidelines that the CA "*will only prevent a merger or acquisition from going ahead, or require it to be unwound, where other remedies to address the competition concerns cannot be devised or are considered unsatisfactory*".[68] Hence, where an effect of SLC is found in relation to a proposed merger, the CA will first assess whether remedies to eliminate or avoid the effect so found can be identified, such that consent may still be given subject to such remedies. Whilst the CA will consider both structural and behavioural remedies, in general, structural remedies will be preferred.[69] In this regard, the CA has had regard to the remedies proposed in the Consultancy Report.[70]

## Approach in Devising the Appropriate Remedies

115. In respect of the retail mobile telecommunications services market, as discussed in paragraphs 32 to 51, and 61 to 67 above, the CA considers that the Proposed Transaction is likely to have the effect of SLC from both a unilateral effects perspective and a spectrum concentration perspective by the creation of market power or enhanced market power on the part of the Merged Entity, such that it is likely to have the incentive and ability to raise prices post-merger. To eliminate or avoid the effect of SLC, there is a need for the CA to consider remedies which seek to strengthen the competitive positions of the existing players or potential new entrants in the relevant market, such that they could serve as effective restraining forces on the Merged Entity's desire and ability to raise prices post-merger.

116. In the retail mobile telecommunications services market, a firm's competitive position is strengthened when it has larger network capacity (more spectrum and/or more base station sites), when it has lower network capacity costs (more spectrum rather than more base station sites), and when the available network capacity is suitable for providing the services that correspond to the most important and fastest growing market segments. To address the SLC effect from the spectrum

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68 Paragraph 1.6, M&A Guidelines.

69 See Paragraphs 6.15 to 6.18 of the M&A Guidelines. Structural remedies could include divestment of part of the merged business through the disposal of assets or shares. Behavioural remedies may be appropriate to ensure that the merged company does not behave in an anti-competitive way after the merger. For example, the parties may be required not to undertake a particular course of conduct made possible by the merger.

70 See Chapter 10 of the Consultancy Report.

concentration perspective, and in turn the SLC effect arising from the unilateral effects of the Proposed Transaction, rivals of the Merged Entity need to have sufficient network capacity so as to enable them to react competitively to any attempted price increase on the part of the Merged Entity post-merger. This will, in turn, restrain the incentive and ability of the Merged Entity to increase prices in the first place.

117. As regards the effect of SLC found in the wholesale access services market, it is important to safeguard the bargaining position of MVNOs vis-à-vis MNOs for network access, given that the Proposed Transaction would reduce the number of currently active suppliers in that market from three to two. Direct regulation of network access conditions will appear greatly disproportionate relative to the competition concern in question, not to mention the very significant enforcement costs involved. Similarly, requiring the Merged Entity to reserve additional network capacity for MVNOs begs the question of what precisely is the right reserve level to ensure that no inefficiencies are created as a result. The more viable option would appear to be exploring a remedy that will in the short term preserve the existing access of MVNOs to the Merged Entity’s network capacity and in the longer term increase network capacity outside that of the Merged Entity, so as to re-balance the competitiveness in the wholesale market for network access post-merger.

**Remedies to Address Unilateral Effects and Spectrum Concentration Issues in the Retail Mobile Telecommunications Services Market**

118. As indicated in paragraph 67 above, the Merged Entity will have a long term RAN capacity in excess of the estimated long term data demand which will serve to reinforce the likelihood of the creation of market power or enhanced market power post-merger. To ensure that rivals to the Merged Entity would have sufficient network capacity post-merger to react competitively to any attempt to increase prices on the part of the Merged Entity in the retail telecommunications services market, the CA considers that spectrum divestment is an appropriate structural remedy. By requiring the Merged Entity to give up part of its spectrum holding, and making such spectrum available for assignment to the other market players through a competitive bidding process, the competition positions of the Merged Entity and its rivals are re-balanced, and the SLC effect arising from spectrum concentration are thus addressed. Aside from that, the resulting acquisition of more spectrum by rivals to the Merged Entity would equip them with sufficient network capacity to accommodate new customers, enabling them thereby to react competitively to any attempt to increase prices on the part of the Merged

Entity by offering attractive alternative offers to customers. This will in turn curb the Merged Entity's incentive, as well as impair its ability, to increase prices in the first place. In other words, the rival MNOs would become more effective competitive constraints to the Merged Entity, neutralising therefore also the SLC effect arising from the unilateral effect of the Proposed Transaction.

119. As for the appropriate level of spectrum divestment, the CA has closely examined two options. The first one is the voluntary remedy offered by HKT Limited/HKT concerning non-renewal of 30 MHz of the 3G Spectrum.[71] The other option is that, in addition to non-renewal of 30 MHz of the 3G Spectrum, HKT/CSL to divest, for example, a further 2 x 10 MHz of spectrum in the 1800 MHz band as suggested by some respondents to the Consultation Paper, in particular SMT.[72]

120. The CA asked the Consultant to estimate the long-term RAN capacity[73] of each MNO in a number of scenarios, including the two remedy options above, and compare this to estimates of expected demand for RAN capacity[74] to assess the most proportionate and reasonable remedy in the context of the Proposed Transaction. Taking into account the analysis made in the Consultancy Report, the CA considers that, on balance, spectrum divestment of 30 MHz is sufficient and that this spectrum can be at a range of frequencies, including the 3G Spectrum. The CA considers that the amount of 3G Spectrum specified in the Application that are proposed not to be taken up by HKT and CSL post October 2016 would serve the purpose, given that all spectrum can eventually be re-farmed for the provision of 4G services.[75] Based on the estimation of long-term demand and supply of RAN capacity,[76] the CA considers that a further spectrum divestment of, say 20 MHz or above, would render the Merged Entity unable to meet long-term demand and could therefore jeopardise its ability to provide a service of good quality to its subscribers, to compete effectively in the market, and to fulfil its commitment to honour all pre-existing agreements such as wholesale access agreements and network sharing agreements. The latter is in fact a

71 The CA notes HTCL's representations that the voluntary remedy offered by HKT should address and avoid any distortions of competition resulting from the Proposed Transaction in respect of spectrum.

72 The CA notes it received additional submissions after the close of the Public Consultation raising concerns regarding such additional divestments.

73 Several different assumptions of utilisation of the operator sites of the Merged Entity were considered in these calculations.

74 Using several different measures, including existing market shares by subscribers and data volume and estimated long-run relative demand for RAN capacity.

75 These bands of 3G Spectrum divested by the Merged Entity will then be available for bidding by the other MNOs and new entrants (if any) in the next auction for 3G Spectrum.

76 See paragraph 66 above.

concern raised by some respondents who are existing users of the network capacities of HKT and CSL.

121. As for the timing of the divestment, the CA considers that October 2016, i.e. the expiry date for the current assignment of the 3G Spectrum, will be the appropriate time. In the first place, the CA notes the analysis made in the Consultancy Report that the merger is unlikely to pose short-term capacity constraints on competition.[77] The CA also considers that sufficient time has to be allowed for HKT and CSL to plan for migration to ensure that services provided to its customers (both retail and wholesale, including CMHK) will not be adversely affected by the non-renewal of 30 MHz of 3G Spectrum.

122. In addition to the required spectrum divestment, the CA considers that it is necessary to require HKT and CSL to make known its plan of closure of any base station sites so that rival MNOs or potential new entrants could enter into negotiations with site owners for taking up rental of the respective sites more effectively and are therefore able to expand or build up their network capacity more quickly. This remedy will provide necessary protection of the competitive position of the rival MNOs and ensure prospects for entry are not foreclosed, with little cost to HKT.

123. Therefore, to address the effect of SLC from both a unilateral effects perspective and a spectrum concentration perspective, the CA considers that the following remedies in the form of a direction under section 7P(7) are necessary:

**(1)** HKT and CSL be directed to divest a total of 29.6 MHz of the 3G Spectrum, by not seeking to renew the assignment of and not acquiring spectrum in the frequency ranges of 1920.3 – 1935.1 MHz paired with 2110.3 – 2125.1 MHz, when the assignment of these ranges of 3G Spectrum expires on 21 October 2016;

**(2)** HKT and CSL be directed that they shall not participate in any 3G Spectrum auction in Hong Kong for a period of five years from the effective date of the Direction;

[77] Chapter 4 of the Consultancy Report. The analysis of there being no short term capacity constraints is premised, inter alia, on HKT's current obligation to share its 3G network capacity with CMHK. See in particular paragraph 4.8 of the Consultancy Report.

**(3)** HKT and CSL be directed that they should make known any plan of closure of any base station sites, by notifying all MNOs and OFCA of the addresses, dates of closure and technical characteristics of the respective base station sites, at least 90 days prior to the closure of such base station sites, to facilitate their take up through commercial negotiations by other MNOs if they so wish. This direction shall be effective for a period of five years from the effective date of the Direction.

124. The remedies identified in the last paragraph will serve to eliminate or avoid the effect of SLC in the retail mobile telecommunications market on a long term basis. In the more immediate term after the completion of the Proposed Transaction leading to the expiry of the current assignment of 3G Spectrum, with the exit of CSL from the market as an independent MNO, the CA will need to ensure that the remaining players in the market have sufficient network capacity to be able to impose competitive constraints on the Merged Entity. The key is to ensure that the existing MVNOs and CMHK continue to gain access to the network capacity of the Merged Entity to avoid any effect of SLC that would otherwise arise from the exit of CSL as an independent MNO from the market.[78] This will be dealt with more specifically below in considering the remedies for addressing issues in the wholesale network access services market.

**Remedies to Address Issues in the Wholesale Network Access Services Market**

125. To address the effect of SLC in the upstream wholesale network access services market, the CA considers it important that the Merged Entity should continue to honour the wholesale access agreements that HKT and CSL respectively have with MVNOs, as well as the 3G network capacity sharing agreement with CMHK, to ensure, at least in the short term, that the MVNOs and CMHK would not be deprived of access to network capacity they currently rely on in supplying their own retail mobile services, which in turn will serve to exert competitive pressure on the Merged Entity in making pricing/output decisions post-merger.

126. A remedy requiring HKT to continue to provide wholesale access to MVNOs on prevailing terms for a reasonable period of time,

[78] See paragraphs 4.8 and 7.8 of the Consultancy Report

coupled with the remedy of requiring HKT not to renew 30 MHz of the 3G Spectrum when the current assignment expires in October 2016, should serve to ensure that MVNOs are able to secure network capacity in the wholesale market for network access post-merger. The CA notes that a remedy of this kind has been accepted by the European Commission to address the same competitive concerns as those that arise in the Proposed Transaction in terms of wholesale access to MVNOs.[79]

127. Accordingly, the further remedies that the CA considers necessary to remedy the issues in the upstream wholesale network access market are:

**(4)** HKT and CSL be directed to continue providing wholesale network access to MVNOs based on the existing agreements with them for a reasonable period of time. In this connection, according to the information provided by HKT and CSL, the existing wholesale agreements they have with MVNOs have different durations and expire at different times. HKT and CSL should be required to continue to give effect to these existing agreements until their expiry dates, subject to the proviso that if any of the agreements expires before three years from the effective date of the Direction has passed, HKT or CSL (as the case may be) shall, at the discretion of the MVNO concerned, enter into a new agreement on terms and conditions no less favourable than those in the existing wholesale agreement, for a term expiring no earlier than the date falling on three years from the effective date of the Direction;[80] and

**(5)** HKT be directed to continue to give effect to its network capacity sharing agreement with CMHK so as to ensure that CMHK continues to have access to the same network capacity on which it currently relies in supplying its own retail mobile telecommunications services, regardless of any reduction of HKT's 3G network capacity post-October 2016.

128. In relation to the remedy proposed in paragraph 123(2) directing HKT and CSL not to participate in any 3G Spectrum auction in

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[79] See, for example, Case M.4697 *Hutchison 3G / Orange Austria*, where Hutchison 3G committed to provide wholesale access to its network for up to 30% of its capacity to MVNOs in order to resolve the Commission's competition concerns.

[80] A term of three years is considered to be reasonable taking into account the fact that the current assignment of 3G Spectrum will not expire until October 2016, and hence the reassignment of 3G Spectrum to rival MNOs will take place only after October 2016.

Hong Kong for a period of five years from the effective date of the Direction, the CA will specify in the future auction rules that are applicable to such 3G Spectrum that HKT, CSL, any company forming part of the same group as HKT and CSL (including but not limited to the holding companies, subsidiaries) and any joint venture in which HKT or CSL has an interest shall not be allowed to participate in the auction.

129. In the Application, HKT Limited has made a voluntary commitment as mentioned in paragraph 11(c) to fulfil all of CSL's licence and customer contract obligations post-merger. While the CA welcomes this voluntary commitment, the CA does not consider that this specific remedy proposed is directly relevant for the purpose of eliminating or avoiding any effect of SLC as identified by the CA in the Decision. The CA notes, however, that notwithstanding the merger and the parties taking action to comply with the Direction, both HKT and CSL remain subject to their licence obligations under the TO.

## THE DECISION

130. Having formed an opinion that the Proposed Transaction would have, or would be likely to have, the effect of SLC in a telecommunications market if it were to go ahead and having been satisfied that remedies are available to address such an effect, **the CA hereby decides to give consent to the Application pursuant to section 7P(7)(b)(ii) of the TO, subject to the direction that HKT and CSL, as carrier licensees concerned, shall take the actions which are more specifically set out in Annex A to the Decision, that the CA considers necessary to eliminate or avoid any effect of SLC that is identified in the Decision.**

**Communications Authority**
**April 2014**

**Annex A**

## Direction of the Communications Authority

Pursuant to section 7P(7)(b)(ii) of the Telecommunications Ordinance (Cap. 106 of the Laws of Hong Kong) (the "**TO**"), the Communications Authority ("**CA**") hereby issues the following direction ("**Direction**") to Hong Kong Telecommunications (HKT) Limited ("**HKT**") and CSL Limited ("**CSL**") to take the actions specified in this document, each of which the CA considers necessary to eliminate or avoid any effect of substantially lessening of competition ("**SLC**") in the telecommunications markets identified in its assessment of the proposed acquisition by HKT Limited of CSL New World Mobility Limited (the "**Acquisition**"), in order to enable the CA to decide to give consent (the "**Decision**").

The Direction shall take effect on 2 May 2014. This text shall be interpreted in the light of the Decision, to the extent that the Direction is attached as conditions and obligations, in the general framework of Hong Kong law, in particular in the light of the TO.

### 1. Definitions

For the purposes of the Direction, the following terms shall have the following meanings:

| | |
|---|---|
| **3G** | means third generation; |
| **3G Spectrum** | means the spectrum in the 1.9 – 2.2 GHz band; |
| **3G Spectrum Auction** | means the forthcoming auction or auctions for any part of 3G Spectrum in accordance with the Statement of the CA and the Secretary for Commerce and Economic Development entitled "Arrangements for the Frequency Spectrum in the 1.9 – 2.2 GHz Band upon Expiry of the Existing Frequency Assignments for the Provision of 3G Mobile Services and the Spectrum Utilisation Fee" issued on 15 November 2013, subject to any changes to the details of the auction as may be decided by the CA and the Secretary for Commerce and Economic Development from time to time; |
| **BTS Sites** | means base transceiver station sites in place as on the |

| | |
|---|---|
| | Effective Date set up by the Parties for provision of mobile telecommunications services under their respective UCLs; |
| **CMHK** | means China Mobile Hong Kong Company Limited, the holder of UCL No. 002 (as of the Effective Date) under which the holder is authorised to provide mobile telecommunications services in Hong Kong; |
| **CSL** | means CSL Limited, the holder of UCL No. 008 (as of Effective Date) under which the holder is authorised to provide mobile telecommunications services in Hong Kong; |
| **Effective Date** | means 2 May 2014; |
| **Group** | means, in relation to an entity, any other entity which controls, is controlled by or is under common control with that entity; |
| **HKT** | means Hong Kong Telecommunications (HKT) Limited, the holder of UCL No. 003 (as of Effective Date) under which the holder is authorised to provide mobile telecommunications services in Hong Kong; |
| **MNO** | means mobile network operator who holds a UCL under which it is authorised to provide mobile telecommunications services in Hong Kong; |
| **MVNO** | means mobile virtual network operator who holds a UCL or an SBO Licence for Class 3 Services (Mobile Virtual Network Operator) under which it is authorised to provide mobile virtual network operator services in Hong Kong; |
| **MVNO Agreement** | means an agreement for wholesale access entered into between HKT or CSL and an MVNO for the provision of MVNO services as set out in the MVNO's UCL or SBO Licence, which is in force on the Effective Date; |
| **OFCA** | means the Office of the Communications Authority of Hong Kong; |

| | |
|---|---|
| **Parties** | means HKT and CSL, each a "**Party**"; |
| **SBO Licence** | means Services-Based Operator Licence issued under the TO; and |
| **UCL** | means Unified Carrier Licence issued under the TO. |

## 2. Direction to divest 29.6 MHz of 3G Spectrum upon expiry of the existing assignment in October 2016 ("Divestment Direction")

2.1 The CA hereby directs the Parties to divest a total of 29.6 MHz of the 3G Spectrum by way of the following:

(i) upon expiry of the current assignment of 3G Spectrum on 21 October 2016, the Parties shall not take any action to the effect of renewing the assignment or acquiring of spectrum in the frequency ranges of 1920.3 – 1935.1 MHz paired with 2110.3 – 2125.1 MHz.

## 3. Direction to refrain from participating in any 3G Spectrum Auction ("Auction Direction")

3.1 The CA hereby directs the Parties not to participate in any 3G Spectrum Auction for a period of five years from the Effective Date.

3.2 The CA hereby directs each Party to procure that any entity for which that Party is a holding company does not participate in any 3G Spectrum Auction or take any action that would be inconsistent with either Party's obligation in paragraph 3.1 above for a period of five years from the Effective Date;

## 4. Direction to inform OFCA and all other MNOs of any planned closure of BTS Sites ("BTS Direction")

4.1 The CA hereby directs the Parties to notify OFCA and all other MNOs in Hong Kong at the time of any plan of closure of any BTS sites. For the avoidance of doubt, such notification should be made only after the commercial decision to close the relevant sites has been formally approved and adopted internally by the Parties or their Group.

4.2 Any such notification shall be provided in writing to OFCA and all other MNOs in Hong Kong at the time. The notification shall be made in a form to be approved by OFCA and shall include basic information on the site(s) which will be closed, including the addresses, dates of closure and technical characteristics of the respective site(s). Such notification shall be provided as soon as practicable after a commercial decision to close the relevant sites has been made by the Parties and no less than 90 days prior to the scheduled closure of the relevant sites, to facilitate their take up through commercial negotiations by other MNOs if they so wish.

## 5. Direction to continue providing wholesale network access to MVNOs ("MVNO Direction")

5.1 The CA hereby directs the Parties to continue providing wholesale network access to MVNOs based on the existing MVNO Agreements, for three years from the Effective Date, regardless of any reduction in network capacity of the Parties pursuant to the Divestment Direction or any closure of BTS sites post-merger. In particular:

(i) the Parties shall continue to give effect to their respective MVNO Agreements and keep the terms and conditions (including price and service levels) unchanged, or no less favourable than those in the existing MVNO Agreements, until the expiry date of each relevant MVNO Agreement; and

(ii) if any MVNO Agreement expires within three years from the Effective Date, the Parties shall, at the discretion of the MVNO concerned, enter into a new agreement on terms and conditions no less favourable than those in the existing MVNO Agreement for a term expiring no earlier than the date falling on three years from the Effective Date.

5.2 For the avoidance of doubt, paragraph 5.1 does not prohibit the Parties from offering terms and conditions that are more favourable than those in the existing MVNO Agreements, taking into account relevant market practice at any time during the three years from the Effective Date.

## 6. Direction to continue giving effect to the existing 3G network capacity sharing agreement with CMHK ("CMHK Direction")

6.1 The CA hereby further directs HKT to continue to give effect to the existing 3G network capacity sharing agreement between HKT and CMHK dated 27 December 2012 (the "CMHK Agreement"), so as to ensure that, post-merger, CMHK continues to have access to the network capacity pursuant to the terms of the CMHK Agreement and on which it currently relies in supplying its own retail mobile telecommunications services, regardless of any reduction in network capacity of the Parties pursuant to the Divestment Direction or any closure of BTS sites post-merger. For these purposes, any spectrum held by CSL should, post-merger, be treated as spectrum held by HKT.

6.2 With reference to clause 8 (Effective Date and Term) of the CMHK Agreement, the compliance of the Parties with the Divestment Direction shall not in itself be deemed to be an unsuccessful renewal by HKT of its 2100 MHz spectrum or a failure to obtain the corresponding spectrum through auction for performance of its obligations, and thus shall not trigger termination of the CMHK Agreement.

6.3 In addition, HKT shall ensure that the following provisions in Schedule 1 to the CMHK Agreement continue to apply post-merger:

(i) CMHK's traffic forecast (as revised from time to time) until December 2017 upon which HKT makes available 3G Network (as defined in the CMHK Agreement) capacity[1]; and

(ii) the maximum 3G Data Capacity (as defined in the CMHK Agreement) available to CMHK annually.[2]

6.4 HKT shall inform OFCA immediately in writing upon serving on CMHK or receiving from CMHK:

(i) any notice of termination in accordance with clause 10 of the CMHK Agreement; or

[1] Paragraph 1.5 of Schedule 1 to the CMHK Agreement.
[2] Paragraph 3.1 of Schedule 1 to the CMHK Agreement.

(ii) a notice of material breach in accordance with sub-clause 10.1(a) of the CMHK Agreement.

## 7. Direction to procure compliance from their Groups ("Procurement Direction")

7.1 The CA directs each Party to use their best endeavours to procure that their respective Groups:

(i) act in accordance with the Direction;

(ii) provide all such assistance to the Parties (as appropriate) to enable each Party to comply with its obligations pursuant to the Direction; and

(iii) not take any action that would be inconsistent with the Parties' respective obligations pursuant to the Direction.

## 8. Direction to report on compliance ("Reporting Direction")

8.1 The CA directs the Parties to submit to OFCA written reports on their compliance with each of the directions in the Direction every six months. The first such report is to be submitted six months from the Effective Date.

8.2 Upon the expiration of all of the Divestment Direction, the Auction Direction, the BTS Direction, the MVNO Direction and the CMHK Direction, the CA directs the Parties to submit one final report (**"Final Report"**) on their compliance with the relevant direction(s) since the submission of the previous report. The Final Report is to be submitted within six months of the previous report.

## 9. Duration

9.1 The Divestment Direction in Section 2 shall expire when the existing term of assignment for the 3G Spectrum expires (i.e. 21 October 2016).

9.2 The Auction Direction in Section 3 shall expire five years from the Effective Date.

9.3 The BTS Direction in Section 4 shall expire five years from the Effective Date, unless the CA directs otherwise, taking into account the market conditions at the time. If the duration of the BTS Direction is to be extended beyond five years, OFCA shall give HKT Limited at least three months' notice prior to five years from the Effective Date.

9.4 The MVNO Direction in Section 5 shall expire three years from the Effective Date.

9.5 The CMHK Direction in Section 6 shall expire upon the earlier of: (i) the End Date (as defined in the CMHK Agreement); or (ii) the lawful termination of the CMHK Agreement by either party in accordance with clause 10 of the CMHK Agreement.

9.6 The Procurement Direction in Section 7 shall expire upon expiration of all of the Divestment Direction, the Auction Direction, the BTS Direction, the MVNO Direction and the CMHK Direction.

9.7 The Reporting Direction in Section 8 shall expire upon the submission of the Final Report.

## 10. General provisions

10.1 Failure by either Party to take any of the directed actions in the Direction (namely the Divestment Direction, Auction Direction, BTS Direction, MVNO Direction, CMHK Direction, Procurement Direction and Reporting Direction) would constitute a contravention of the TO.

10.2 Any notice delivered pursuant to the Direction shall be delivered by hand, or sent by facsimile, registered post or pre-paid post. Any notice shall be deemed to have been received: (i) if delivered by hand, when delivered; (ii) if sent by facsimile, on receipt of confirmation of transmission; or (iii) if sent by pre-paid post, (in the absence of evidence of earlier receipt) three business days after posting from within Hong Kong. Any notice received on a day which is not a business day shall be deemed to be received on the next following business day.

10.3 The Direction is governed by the laws of Hong Kong.

**Communications Authority**
**April 2014**

**Annex B**

## Representations Received in response to the Consultation Paper

| Date of Submission | Submitted By |
|---|---|
| 24 Dec 2013 | Manley Tai |
| 27 Dec 2013 | Alvin Chan |
| 31 Dec 2013 | Eric Chow |
| 31 Dec 2013 | Ken Wong |
| 01 Jan 2014 | Ricky Cheung |
| 02 Jan 2014 | Wong Wing Kit |
| 06 Jan 2014 | John Cheung |
| 06 Jan 2014 | 李耀升 |
| 10 Jan 2014 | China Motion Telecom (HK) Limited |
| 10 Jan 2014 | David Cheung |
| 11 Jan 2014 | Simon Lo |
| 16 Jan 2014 | 司徒德華 |
| 22 Jan 2014 | Consumer Council |
| 22 Jan 2014 | David Lau |
| 22 Jan 2014 | 陳耀明 |
| 24 Jan 2014 | Hong Kong Information Technology Federation |
| 26 Jan 2014 | Ben Lee |
| 28 Jan 2014 | Isabelle (胡小姐) |
| 28 Jan 2014 | RBB Economics |
| 30 Jan 2014 | HKT Limited |
| 30 Jan 2014 | 陳耀榮 |
| 04 Feb 2014 | Certari Consulting Limited |
| 04 Feb 2014 | China Mobile Hong Kong Company Limited |
| 04 Feb 2014 | Hutchison Telephone Company Limited |
| 04 Feb 2014 | SmarTone Mobile Communications Limited |
| 04 Feb 2014 | Truphone (Hong Kong) Limited and Truphone Limited |
| 04 Feb 2014 | Wharf T&T Limited |