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SUBJECT: PUBLIC CONSULTATION ON SPECTRUM ALLOCATION FOR IMT AND IMT_ADVANCED SERVICES AND OPTIONS TO ENHANCE MOBILE COMPETITION.

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Frequency Allocation:

700MHz

700 MHz band is already allocated to 4G in the region (e.g. Australia) which make it a suitable frequency band for use for 4G services in Singapore. Although coupling frequencies is desirable for purposes such as roaming, the decision is dependent partly on the end-user equipment manufacturers' response to the need and the time required to roll out devices.

800 MHz

800 MHz band currently is used for trunk radio services. Re-farming is needed to allow 4G services on the under-utilized 800 MHz band. At the initial phase, 4G services should be made available on 800MHz band 5. In the second phase the existing trunk radio and SRD technologies should be migrated to 4G and the relevant frequencies re-farmed to be within band 26 frequencies.

In the initial stage, the impact on the existing trunk radio users is minimal as there is no overlap between services on band 5 and the existing trunk users in band 27. Impact in the second stage depends on migration plan of trunk radio/SRD to 4G. The current trunk radio technology makes use of narrow frequency channels and therefore if planned correctly, the mobile services and trunk radio services could co-exist with minimal issues.

TDD Bands

One of the main benefits of the TDD technology is that it does not require paired spectrum and therefore it can fit into any single spare piece of spectrum. 2300MHz & 2500MHz TDD bands are suitable for 4G services as currently adopted in some Asian countries specifically driven by China, Malaysia and to some extent Japan (where Softbank has already rolled out a proprietary form of TD-LTE at 2.3GHz).

Question 10: IDA seeks:

- (a) views and comments from potential MVNOs on their level of interest to enter the mobile market and the target market segments of potential MVNOs (e.g. pre-paid or post-paid, niche or general consumer segments); and***
- (b) views from the industry on the interest and viability for a new MNO to enter the market, and whether the market environment, or technology or spectrum developments have changed since the 2013 4G spectrum auction that have made the business case attractive for a new MNO to enter.***

COMMENTS BY CONSISTEL

- (a)** Should the main focus of the MVNOs be voice calls, they would inevitably be competing with their own MNO by carving up their MTO's existing subscriber base.

This may serve as a deterrent for the existing MTOs to allow entry of MVNOs into their networks. Consistel believes that the introduction of the 4th MNO having a telecom network and a business model geared up, from the onset, to facilitate entry of MVNOs would be the key to the viability of MVNO business venture.

- (b) Consistel believes that the entry of a 4th MNO is not only desirable, but is vital in enhancing the competition environment within the industry. The viability of a new MNO, however, rests in the use of advanced technology, creative business model, innovative service offering, forging strategic partnerships and availability of a level playing field, etc.

The player entering the local telecom market as the 4th MNO, however, must not have its entry strategy based on cannibalizing the existing MNO's subscriber base and must have the strength and ability (technological & financial) not to be dragged into a price war with the incumbents.

The new MTO's strategy and resource availability must provide for a rapid deployment of a nationwide network based on the existing 4G while planning for future upgrading and expansion.

In addition the early stage support of the regulator in ensuring a level playing field for the new MTO is an essential requirement. For example, same level and same cost of access to the international gateways and/or backhaul as the incumbent MTOs, sufficient frequency allocation, allocation of numbering plans and other resources for the new MTO would have a profound effect on the viability of the new MTO's business.

Question 11: IDA seeks views on the 'depth' of MVNO deployment envisaged by new entrants, in particular, the viability of a 'Heavy/Full' MVNO deployment model versus the other models, given that the former would have the most flexibility to differentiate its services to compete with the MNOs.

COMMENTS BY CONSISTEL

The existing MTOs could be inclined to host "light" MVNOs offering services at lower part of the service/subscriber pyramid. A "Heavy/Full" MVNO, however, is far more likely to be seen as a direct competitor to the existing MTOs and as such it may not appear an attractive proposition to the existing MTOs to host "Heavy/Full" MVNOs. A new MTO (4th MTO), on the other hand, could build its market entrance strategy along partnerships with one or more such MVNOs.

Question 12: IDA seeks views on:

the viability of a regulatory and/or voluntary commitment approach for MVNO-hosting, and the kinds of regulatory or incentives required and which spectrum bands to tie-in the MVNO-hosting incentives.

COMMENTS BY CONSISTEL:

While regulatory approach to hosting MVNOs could facilitate entry of MVNOs in the market, the ultimate objective may not be met if the host MTOs are not fully committed to the cause or if they perceive the hosted MVNO as a direct completion. In particular if the host's subscriber base is substantially altered as a result of the MVNO entry, then such venture would not be viable for either party in the long run.

In the case of absence of the incumbent MTOs' willingness to accommodate entrance of the MVNOs, introduction of the 4th MTO having MVNO hosting service as part of its strategy is the more efficient and viable way to fill the gap.