

22 April 2014

FACT SHEET: Public Consultation on Proposals to Optimise the Use of Radio Spectrum and to Introduce Further Competition in the Mobile Market

IDA has issued a public consultation paper to seek views from the industry and members of the public on the suitability, timeframes and technical issues regarding the allocation of radio spectrum for mobile broadband services, and related policy proposals to introduce further competition in the mobile market. IDA's efforts in these areas aim to enhance the vibrancy of the wireless and mobile landscape.

The review of spectrum allocation aims to provide timely availability of spectrum for mobile broadband services to meet the increasing demand for data services. The review seeks to ensure optimal use of Singapore's scarce spectrum resources, and provides certainty to the industry on the direction of the spectrum policy moving forward. Such certainty will facilitate investment, growth and innovation in the mobile sector.

Up to 450 MHz of radio spectrum has been identified that may be allocated for mobile broadband services over the next 6 years, such as 4G, and services using more advanced technologies (for example, the Long Term Evolution-Advanced, more commonly known as LTE-Advanced), in the next few years. IDA will also be closely monitoring developments at the International Telecommunications Union ("ITU") and the proposals at the World Radio-communication Conference ("WRC") 2015 to identify new spectrum bands to be made available for commercial mobile services. More details on the spectrum bands can be found in **Annex A**.

The long-term spectrum planning exercise will help support the upcoming Heterogeneous Network ("HetNet") pilot. HetNet comprises cellular, Wi-Fi, and small cell networks, seeking seamless access and consistent user experience. Spectrum coordination and standards development play a pivotal role in the development of HetNet. By enabling the deployment of different networks and technologies that can re-distribute wireless traffic across various networks, it can result in better management of network capacity overall, while ensuring an acceptable level of experience for all users. One of the objectives of the consultation is to seek the views of the industry on the suitability of different spectrum bands for HetNet deployment such as for small cell networks, as well as other technical and policy issues to consider (for example, technical standards for seamless switching between wireless technology platforms such as Wi-Fi and mobile networks, impact on quality of service experienced by end users, etc), to facilitate the deployment of HetNet in Singapore.

The public consultation also seeks inputs from the industry and members of the public on proposals to enhance competition in the mobile market. IDA is exploring possible approaches to facilitating the entry of more Mobile Virtual Network Operators (“MVNOs”) while remaining open to the entry of new Mobile Network Operators (“MNO”).

An MVNO is a mobile service provider that does not own any spectrum rights and purchases airtime and/or services from MNOs on a wholesale basis before packaging and selling them under its own brand. MVNOs also typically differentiate themselves from regular MNOs in other aspects, such as pricing, customer service, and value added services, amongst others.

The introduction of MVNOs can potentially offer consumers more choices of service providers, and may bring about greater vibrancy and competition in the mobile and wireless landscape. Successful MVNOs, such as those found in the UK and the Netherlands, show that these entities have introduced service innovation and have caused a reduction in market prices. In some of these markets, MVNOs account for more than 10% of the mobile market share.

The public consultation will begin today, 22 April 2014, and will end in 4 weeks on 20 May 2014.

ISSUED BY CORPORATE AND MARKETING COMMUNICATIONS DIVISION
INFOCOMM DEVELOPMENT AUTHORITY OF SINGAPORE

About Infocomm Development Authority of Singapore

The mission of the Infocomm Development Authority of Singapore (IDA) is to develop information technology and telecommunications within Singapore with a view to serve citizens of all ages and companies of all sizes. IDA does this by actively supporting the growth of innovative technology companies and start-ups in Singapore, working with leading global IT companies as well as developing excellent information technology and telecommunications infrastructure, policies and capabilities for Singapore. For more news and information, visit www.ida.gov.sg

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ANNEX A

No.	Spectrum band	Current assignments in Singapore	Amount of Spectrum	Expiry of existing assigned uses	Availability
1	700 MHz	Terrestrial broadcasting	90 MHz	After Analogue-Switch Off (“ASO”), including ASO for neighbouring jurisdictions at the border areas. ASEAN has indicated its target of 2020 for ASO.	In the next 6 years
2	800 MHz	Trunked radio	Possibly 50 MHz	On annual assignment basis	
		Short Range Devices		Licence-exempt band	
		2G		31 March 2017	
3	900 MHz	2G, 3G, (4G allowed)	Up to 50 MHz	31 March 2017	
		2G			
4	1.4 GHz	Digital audio broadcasting	40 MHz	To be determined	
5	1.9 GHz	3G	120 MHz	31 December 2021	
6	2.1 GHz	3G		31 December 2021	
7	2.3 GHz for Time Division Duplex (“TDD”) technologies	Un-assigned (previously assigned for Wireless Broadband Access (“WBA”))	Possibly 50 MHz	To be determined, currently available for trials	
8	2.5 GHz for TDD technologies	Partially assigned for WBA/4G	Possibly 50 MHz	30 June 2015	
9	3.5 GHz	Satellite downlink	200 MHz (possibly for in-building)	To be determined	May be longer-term